AMERICAN ANNALS

OF

The Deaf

ORGAN OF THE CONFERENCE OF EXECUTIVES OF AMERICAN SCHOOLS FOR THE DEAF, AND THE CONVENTION OF AMERICAN INSTRUCTORS OF THE DEAF

EDITED BY

IRVING S. FUSFELD

UNDER THE DIRECTION OF

PERCIVAL HALL, OF THE DISTRICT OF COLUMBIA; FRANK M. DRIGGS, OF UTAH; HERBERT E. DAY, OF MISSOURI; MADISON J. LEE, OF KENTUCKY; OSCAR M. PITTENGER, OF INDIANA; AND J. W. BLATTNER, OF OKLAHOMA.

EXECUTIVE COMMITTEE OF THE CONFERENCE

VOL. LXXVIII, No. 3

MAY, 1933

Subscription, $2.00 a year
January number, $1.00 Single number otherwise, 50 cents
Published bi-monthly during the school year

Publication Office:
450 Ahnaip St., Menasha, Wis.

Editorial Office: Kendall Green, Washington, D.C.

Entered as second-class matter at the Postoffice at Menasha, Wis. Acceptance for mailing at the special rate of postage provided for in the Act of February 28, 1925, authorized June 25, 1932.

AMERICAN ANNALS

OF

THE DEAF

ORGAN OF THE CONFERENCE OF EXECUTIVES OF AMERICAN SCHOOLS FOR THE DEAF, AND THE CONVENTION OF AMERICAN INSTRUCTORS OF THE DEAF

EDITED BY

IRVING S. FUSFELD

UNDER THE DIRECTION OF

PERCIVAL HALL, OF THE DISTRICT OF COLUMBIA; FRANK M. DRIGGS, OF UTAH; HERBERT E. DAY, OF MISSOURI; MADISON J. LEE, OF KENTUCKY; OSCAR M. PITTENGER, OF INDIANA; AND J. W. BLATTNER, OF OKLAHOMA.

EXECUTIVE COMMITTEE OF THE CONFERENCE

VOL. LXXVIII, No. 3
MAY, 1933

AMERICAN ANNALS OF THE DEAF
VOL. LXXVIII MAY, 1933 No. 3

PARTICIPATION OF THE CONVENTION IN THE INTERNATIONAL CONGRESS ON THE EDUCATION OF THE DEAF

The participation of the Convention of American Instructors of the Deaf in the International Congress on the Education of the Deaf, at Trenton, June 18 to 23, 1933, will be confined to exposition of the teaching of language, subject matter such as history, geography and reading, to industrial education, physical training, and related subjects. A short explanation of the Five-Slate Method, followed by an explanation of the Wing Symbols by Miss Josephine F. Quinn of the Minnesota School, has been arranged. Carried through this program will be a short period each day for about ten minutes given to the Fitzgerald Method. This will be followed by a period each day given by Mrs. Rachel D. Davies, of the Western Pennsylvania School, on her methods of teaching language and reading. A short time will be given to a special explanation by Miss Josephine Bennett of the Lexington Avenue School. These explanations will cover about ten minutes each, some of them extending through the week. Demonstrations will be given on subject matter in classrooms so that the visitor may listen to the explanation and follow it up by seeing the details developed in the classroom procedure. Teachers will demonstrate with only two or three pupils.

Dr. James Plant, psychiatrist, will deliver a paper, the title of which has not yet been given.

There will be papers and discussions on boys' and girls' industrial work. The industrial and art teachers will get together each day and conduct round tables for an hour and a half in the morning and the same period in the afternoon. They will have their own program, which is being developed by a local committee under the direction of the Standing

Committee on Vocational Education and the Standing Committee on Art. In the same manner, the teachers of physical education, the coaches, and nurses will meet in their respective groups for an hour and a half each morning and for the same period in the afternoon and will conduct round tables on everything relating to health and physical education. Their program is being developed and will be published later. The North Dakota School for the Deaf is preparing a film of its physical training activities. The New York School for the Deaf will send a military company and band that will perform Sunday and Monday.

ALVIN E. POPE,
President of the Convention.

PROPOSED PROGRAM FOR MEETING OF THE CONFERENCE

WEST TRENTON, NEW JERSEY

June, 1933

(The titles of papers are subject to modification later.)

Monday, June 19:

5:00 P.M.

General Subject: Tests and Testing.

Paper by Dr. Rudolf Pintner on "Psychological Tests for Deaf Children." (10 minutes)

Statement by Miss Bessie N. Leonard on "Results of Research work Carried on at the Clarke School." (10 minutes)

Statement by Dr. Joseph E. Morsh on "Tests of Motor Co-ordination of Deaf Pupils." (5 minutes)

Paper by Professor Irving S. Fusfeld on "What Standard Tests Have Shown at Gallaudet College." (10 minutes)

Discussion of general topic, led by Superintendent Herbert E. Day. (15 minutes)

5:50 P.M.

General Topic: A Health Program in Our Schools.

Paper by Dr. H. H. Donnally, Washington, D.C., on "A Practical Program for the Conservation of Health." (10 minutes)

Paper by Superintendent Burton W. Driggs on "Physical Education for the Non-Athlete." (10 minutes)

General discussion led by Mrs. H. T. Poore. (20 minutes)

6:30 P.M.—Adjournment.

Tuesday, June 20:

5:00 P.M.

Business Meeting:

1. Roll call of Members.
2. Reading of Minutes.
3. Reports of Officers.
   a. President.
   b. Treasurer.
4. Reports of Committees.
   a. Executive Committee (Dr. Percival Hall).
   b. Certification Committee (Superintendent Ignatius Bjorlee).
   c. Organization Committee (Superintendent Ignatius Bjorlee).
   d. Committee on Salaries and Statistics (Principal E. A. Stevenson).
5. Election of Officers.
6. Adjournment.

Thursday, June 22:

5:00 P.M.

General Topic: School Curriculum.

Paper by Dr. Harris Taylor on "Reorganizing Our School Curriculum to Meet Changing Economic Conditions." (10 minutes)

Paper by Superintendent T. C. Forrester on "A Successful High School Course." (10 minutes)

Paper by Miss Mabel Ellery Adams on "A Course for Primary and Intermediate Grades." (10 minutes)

Paper by Miss Julia M. Connery on "Nursery School Curriculum and Accomplishments." (10 minutes)

General Discussion led by Superintendent O. L. McIntire and Very Rev. Msgr. H. J. Waldhaus. (20 minutes)

6:00 P.M.

General Subject: Vocational Curriculum and Vocational Guidance.

Paper by Dr. E. A. Gruver on "Vocational Program for Residential Schools." (10 minutes)

Paper by Superintendent D. T. Cloud on "Vocational Guidance and Placement." (10 minutes)

Discussion led by Superintendent H. B. Fetterly. (10 minutes)

6:30 P.M.—Adjournment.

PERCIVAL HALL,
Chairman, Executive Committee.

HOME ECONOMICS IN SCHOOLS FOR THE DEAF AND THE MARITAL AND OCCUPATIONAL STATUS OF THEIR ALUMNÆ

This study represents an effort to bring together material that may merit some consideration in the reorganization of home economics curricula in schools for the deaf.

Questionnaires were sent to 66 public residential schools of the United States and Canada, over half of which replied; and 515 questionnaires were sent to alumnæ whose names were furnished by ten of these schools. Almost half of the alumnæ responded. The data here presented may not be entirely representative of the typical status of deaf girls because of the operation of such factors as the present economic conditions which have swelled the ranks of the unemployed; some slight degree of selection on the basis of mental ability, one school submitting as "representative" of its alumnæ a list of ex-students none of whom had completed less than the twelfth grade; inaccuracies of name and address which tended to reduce the percentage of girls reported as married, since it is probable that more of the questionnaires sent to girls who had married after leav-

ing school came back as dead letters, than of those sent to unmarried girls; and the possibility that some of the alumnæ did not answer for fear that their names would be used publicly, for although names were not asked for, many signed the forms.

In spite of these limiting factors, the returns from the two sets of questionnaires would seem to warrant drawing certain conclusions.

In general there is a lack of uniform terminology and of any standard course of study; but the teaching of home economics in schools for the deaf seems to be characterized by an over-emphasis on foods and clothing, to the exclusion of such phases as personal and household budgeting, home decoration, and child care and training. Home economics was offered to boys in three of the schools; but this was limited to foods work. Since most of the schools stated that their object in home economics teaching was to prepare for effective living, with preparation for wage earning as an additional objective in some cases, so narrow a range of subject matter would seem undesirable.

The period of instruction varied as to the total number of years teaching to which a pupil was entitled, and the number of years of home economics instruction, and as to the length and number per week of the home economics class periods. The two-hour period, five to six times per week, for six years, was most frequently reported.

Less than half the girls completed the course of study and of those who left without graduation the largest percentage apparently did so because of lack of ability to do the required work. Reasons for leaving school, as given by this group, included statements such as, "I became too old," "The superintendent could not give me a certificate," "The teacher was no good," "I did not learn good." The existence of so large a group unable to do the work of the school would seem to indicate the advisability of grading the pupils on the basis of their intelligence. This should be scientifically done by means of standardized tests such as those developed by Pintner and Paterson. Then curricula could be developed to suit the various intelligence levels, so that a

child could complete a course for which he had ability, instead of struggling part way through a course too difficult for his powers.

There has been a gratifying improvement in schools for the deaf in the standards required of their home economics teachers. Whereas, in the survey reported by Day, Fusfeld and Pintner, most of the schools required only skill in the processes taught, the majority of schools reported that they now required some college work in home economics, many of them specifying college graduation in this subject. In view of the need of deaf girls for practice and training in communication with hearing persons, the employment of deaf home economics teachers is open to question. In some schools the home economics teaching is still done before or after regular school hours, a practice that unduly lengthens the child's school day, and gives to one teacher or group of teachers the less desirable working hours. The home economics teachers are still the most poorly paid of the teachers of the deaf and remuneration varies greatly from school to school.

Little vocational training other than home economics is given to deaf girls. Beauty culture, typing, bindery, printing, and art training are given by some schools to a few of their girls.

Policies of aiding alumnæ to find employment are varied. Most of the schools did no systematic work along this line; less than half the schools had made any sort of investigation as to the employment possibilities for deaf girls in their communities. Of the eleven schools making such investigation, five had made only partial surveys. In view of the fact that most of the girls who were staying at home indicated that lack of employment was either the sole or a contributing cause of their being there, the problem of placement aids would seem to be important.

Sex instruction is not given systematically to either boys or girls in the schools for the deaf, though such teaching by a competent instructor would seem to be even more important than for hearing children, because of the lessened

opportunity for the deaf child's acquiring such knowledge in a desirable way.

Routine institutional work such as making sheets and towels, ironing and mending still occupies much home economics class time in a large number of schools for the deaf. Such work, given in amounts beyond that required for the attainment of reasonable standards of skill and excellence, seems to be an unwarranted exploitation of children already heavily handicapped. Such practice robs them of the opportunity to acquire knowledge, attitudes, and skills in other phases of living and homemaking that they urgently need; and the fact that they are handicapped by the lack of hearing and by an average intelligence less than that of hearing children makes such exploitation doubly inexcusable. One school reported that the girls did all their own, the boys', and the younger children's mending, and made all the institution linens during home economics class time. Three schools reported all and four more that much of the institution linens were made during class time. What time had these girls for learning the many other important duties of a homemaker?

There is some correlation between the academic and the home economics teaching in the instruction in language, shop language, and arithmetic. Such correlation appears to be very valuable, and might well be used more extensively.

Reference material in home economics subject matter available in schools for the deaf appears to be suitable for teachers' rather than for pupils' reading. Home economics textbooks prepared especially for the use of deaf girls, profusely illustrated, and employing a vocabulary suited to their ability, seem to be urgently required.

Most of both the married and unmarried women reporting in this study were on a low income level and the majority of the husbands and fathers of these alumnæ may be classified in the skilled and unskilled labor groups. For this reason it would seem that training should be offered in the wise use of money and in the practice of thrift in all home activities and personal spending.

Approximately one-fourth of this group of alumnæ married shortly after leaving school and, as pointed out earlier, the percentage reported as married is probably smaller than among the total population of deaf women, because of inaccurate mailing lists; one-fourth of those marrying, married hearing men; over half the married women were mothers, but none of them had borne deaf children; and more than two-thirds of the total group had more hearing than deaf friends. These facts make training in communication with hearing people and in social conventions of great importance. This is recognized by the girls themselves, many of whom wrote unsolicited notes expressing their loneliness in hearing communities and their feeling of a lack in their ability to carry on normal social intercourse with the people about them.

About one-fifth of the unmarried group were gainfully employed, 70 per cent of them at skilled or unskilled labor. The fact that over 60 per cent of the girls staying at home were there because they could not find work, indicates either faulty training, or the need of contact between the deaf worker and the job, or that the present unemployment crisis affects deaf women more than hearing ones. Probably all three causes were operative.

Training in the use of leisure time appears to be very important, especially for those deaf women located in smaller communities where little opportunity for communication with their kind exists. About 25 per cent of these deaf girls did not belong to any social organization; only 35 per cent had affiliations with any organization other than church. There is no basis for knowing whether, in the general population, as large a percentage as in this group have no social affiliations; nor of knowing how effective such affiliations are in bringing social satisfactions to the participators; but it is likely such affiliations are a source of enjoyment, especially where the organization is one of deaf members. Handicrafts appear to take the place of many activities engaged in by hearing people, such as attending lectures, theatres, and the talkies.

The sociological and psychological implications of this study appear to be worthy of consideration by educators of the deaf. The large number of personal notes and comments stressed the maladjustments of the group. Many girls who were staying at home expressed a keen desire to be self-supporting; some of them felt they had been inadequately trained for earning; others, that they were not given a fair chance in the world of wage earners.

Much social maladjustment, loneliness, and lack of understanding between the deaf girls and the people about them were revealed. One girl wrote:

"I am at home because my folks think all handicapped people are incompetent. . . . If the girls could only be taught regular dressmaking instead of institute sewing and mending. Hemming sheets and towels won't get them anywhere. . . . Each girl was allowed to make one cotton dress for herself every spring, and that was practically all the real sewing they did." The writer had lost her hearing at adolescence, and had gone to a school for the deaf after finishing the eighth grade in a school for the hearing. She had learned to sew at home. Her criticism was for the sake of other girls who did not have this advantage.

Another girl wrote: "I only spent eight months in the school, but I think the social part of the school life helped me most. I am a lip-reader, being only partially deaf, and the time I spent at the school for the deaf was mostly to help me overcome my bitterness about my deafness. It certainly changed me, and I don't feel alone as I did before I knew deaf people." This writer was married to a hearing linotype operator. Another girl, totally deaf, said, " . . . There are lots of things deaf girls can do. They only need a chance, which they never get."

It is probable that more of the girls felt such maladjustments than were capable of analyzing and expressing their feelings. While a normal psychology is hardly to be expected of so handicapped a group, it is probable that a better adjustment than exists is possible. Training in communication with hearing people, and in the wise use of leisure time,

appears to be very important. Training of the families and friends of deaf people in an intelligent consideration of the handicap imposed by deafness seems likewise of paramount importance. School publications could be utilized in this way; visits of parents to the schools form another point of contact; or bulletins dealing with the training and treatment of the deaf child in the hearing home might be prepared.

While many of the conclusions cited in this study are not capable of proof because of the limited number of cases available, the data upon which these conclusions are based tend to verify opinions held by many people who have been working with deaf groups.

Recommendations

Specific conclusions on many points have already been suggested; only the major ones are repeated here. Of the following recommendations, some involve general policies of school administration while others are wholly or in part within the control of individual home economics teachers in the schools for the deaf.

1. It is desirable that home economics curricula be broadened to include phases of homemaking other than sewing and cooking and that home economics class periods should fall within the regular school hours. Also, it would seem that the terminology, the content of courses offered, and the amount of time devoted to home economics should be made more uniform.

2. Students should be classified on the basis of their mental ability and differentiated curricula established that would be suited to the intellectual level of different groups.

3. Greater uniformity of remuneration among properly qualified home economics teachers, on a level not lower than that of the academic teachers, is desirable.

4. The correlation of the work of the home economics and of the academic departments should be more definitely planned.

5. Routine institutional work during home economics

class periods, in amounts beyond those required for acquiring a reasonable degree of speed and skill in the processes taught, should be reduced.

6. A list of minimum essentials to be taught in home economics classes for the deaf would be of great value. Such lists have already been prepared for the teaching of hearing children; but, in view of the fact that less can be taught deaf children in a stated time, these lists might be re-checked for use in schools for the deaf. Another reason for making such lists is found in the fact that deaf girls, due to their early marriages, and the position of many of them as helpers in their mothers' homes, need training for homemaking even more, perhaps, than do hearing girls.

7. Textbooks are needed which have been prepared especially for the use of deaf girls.

8. The curriculum should emphasize training in the wise use of money, in the profitable use of leisure time, and in social conventions and mingling with hearing persons—all of which are needed if these deaf girls are to make even a reasonably satisfactory adjustment to their environment.

9. Systematic surveys of employment possibilities for deaf girls are desirable, as well as records of ex-pupils and a definite system of assisting deaf girls to secure employment.

In view of the many problems facing home economics teachers in schools for the deaf, it is suggested that these teachers meet for a discussion of professional questions. Such a meeting at the time of the convening of the Convention of the American Instructors of the Deaf would seem to be a desirable and much needed means of improving the status and quality of home economics teaching in schools for the deaf.

The writers wish to thank those school superintendents who so kindly co-operated in the collection of the data here presented, and without whose help this study would have been impossible. Thanks are due also to the alumnæ who gave the information requested.

The complete thesis "A Survey of Home Economics in Schools for the Deaf and of the Marital and Occupational

Status of their Alumnæ, with a View to Curricula Development,'' a master's thesis by Bertha Bowman Peterson, 1932, may be borrowed from the library of the University of Minnesota if authorization from Mrs. Peterson is secured.

BERTHA BOWMAN PETERSON,
1013 Manahan Avenue, Fort Garry P.O.,
Winnipeg, Manitoba,
and
CLARA M. BROWN,
Associate Professor of Home Economics,
University of Minnesota, St. Paul, Minn.

SOME RESULTS FROM THE USE OF THE GAULT-TELETACTOR

On October 13, 1931, a class was formed at the Illinois School for the Deaf for the purpose of testing the question of the practical usefulness of the Teletactor that has been developed under the direction of Dr. Robert H. Gault of Northwestern University. Miss Alice Plouer, who for several years has been a member of the teaching staff in this school, has had the group in her immediate charge. From time to time Dr. Gault has visited the school and has observed the class and Miss Plouer at work. He has at no time urged any given program of work for the teacher in charge, but has offered her many suggestions of possible methods of using the Teletactor profitably in the schoolroom. These suggestions were in every case based upon his experience in his laboratory. Miss Plouer herself has been responsible for making the application.

The entire Teletactor system as we have it here consists in a high-grade microphone at the teacher's desk; a powerful amplifier; an electromagnetic receiver or vibrator of low impedence attached to each pupil's desk; a microphone fixed to each pupil's desk, and for each one, also, a pair of ear-phones. Moreover, at the teacher's desk is a switchboard. It is possible, therefore, if the teacher desires it, for each pupil all day to see the teacher's face while she is speaking, feel her words and (if the pupil has a suitable residuum of

hearing) to hear her words—three sensory approaches for spoken language.

I mentioned the pupils' microphones and the teacher's switchboard. By throwing the appropriate switch in the latter the teacher can enable any pupil to speak through his microphone so that all the other pupils in the room can feel his voice. This opens up the possibility of developing speech-rivalry among the pupils.

We have in this class eight children, who were all entering pupils in September, 1930. They were, with the exception of two pupils, in a pre-school age class the previous year. They ranged in ages from five years and five months to seven years and five months at the time they entered this special class in October, 1931.

Hearing tests were given, using a 2-A Audiometer. The pupils were rated as follows:

One pupil an average loss of 81 per cent
One pupil a 62 per cent loss
One pupil a 58 per cent loss
One pupil a 54 per cent loss
One pupil a 53 per cent loss
One pupil a 49 per cent loss
One pupil a 46 per cent loss
One pupil a 43 per cent loss

Our daily program during the last year was the same as that which any oral teacher carries out in her classroom. It included tongue gymnastics, voice development exercises, development of the elementary sounds, combinations, syllable drills, phrasing and accent. Speech-reading was given in the usual way. After every speech and speech-reading period, the work was repeated, using the Teletactor.

The first babbling exercise, with the Teletactor, was very interesting. The children had learned to read from speech and from script, "bububububu," "dududududu" and "larlarlarlar." When these sounds were spoken into the microphone, the teacher's face being covered, the babbling was not understood. There was no auditory impression, and their tactile sense was not trained to interpret the impressions felt in the Teletactors. When "bububububu" was given to them again, the teacher's face uncovered so that they could see what she was saying, they began to associate what they saw with the tactile impression. They were not

expected to interpret the vibrations that they were feeling in the receiving diaphragms. They held their fingers on the diaphragms, also, during the periods they were learning to vocalize into their microphones. Thus they felt their own, as well as the voices of each other. They babbled, laughed and squealed into their microphones. It did not take them long to realize that the diaphragms vibrated with the action of their voices and with the action of the teacher's voice.

We have in this class two boys and a girl who at the beginning of the experiment were not much more than whisperers. It was difficult to get an audible sound from any one of the three. They have been greatly benefited by the use of the Teletactor. Their voices are stronger and clearer. They can be easily heard and understood. There is no doubt in my mind that the Teletactor has enabled them to discover their own voices and how to produce them. For the instrument makes a whisper feel very light and a loud voice very heavy and there are many steps between. It therefore offers a new method of volume control. Whatever hearing function was aroused through the ear-phones may have played a part, too, in this discovery of voice, as well as their seeing the teacher's moving lips at the same time that they felt her words.

The pupils are able to recognize many rhymes by their tempo. And this suggests a very interesting and useful variation that Miss Plouer has introduced into her work. When the pupils have had their customary exercise at the piano—feeling various rhythmical vibrational patterns produced by a player at the keyboard—she takes them to the Teletactor and recites into their fingers various ditties that duplicate the tempo and vibrational patterns that they had just felt at the piano. The idea in this is to build up an association of rhythmical patterns not only with the piano but with human speech. The pupils enjoy this exercise very much.

Additional advantages that we have observed in the use of the Teletactor are as follows: (1) It has proved to be an aid in tone production; (2) It offers a very easy means for distinguishing between long and short vowels and for drill-

ing on words in which these sounds are contained; (3) When a list of words has been written upon the slate and when the words are being pronounced by the teacher and by the pupils, the Teletactor affords a convenient means for pointing out the "silent" and unvoiced elements; (4) Accent in a combination of elements or syllables is much more easily developed by aid of the Teletactor than without it; (5) The omission of an element or a syllable when it should be vocalized or its vocalization when it should be "silent" is more easily corrected by the use of the instrument than otherwise.

On the whole the use of the Teletactor in relation to the development of speech, at least, introduces nothing into the teaching of the deaf that is essentially new. From the beginning deaf children have been placing their fingers upon the teacher's larynx to feel the vibrations that correspond to vocal utterance. But this instrument makes it possible to feel the vibrations, accents, etc., much more distinctly than can be done in any other way. Moreover, it affords an opportunity for a group of pupils to be busy simultaneously with tactual impressions from spoken language. And on the whole it is a very effective stimulator of interest in oral work. To all these advantages we attribute the fact the pupils in the "Teletactor room" have already a much smoother speech than is usually found in deaf children of their age.

In the latter part of the year we added a Victrola attachment to the Teletactor. By this means we are able to accomplish all that is ordinarily done in schools for the deaf by means of the piano.

D. T. CLOUD,
Managing Officer of the Illinois School,
Jacksonville, Ill.

"MOTOR ABILITIES OF DEAF CHILDREN" —A REVIEW

Teachers College at Columbia University has recently published a monograph, "Motor Abilities of Deaf Children," by John Alexander Long.[1] The monograph was composed as a doctor's thesis and was sponsored by Dr. Rudolf Pintner. The book contains 67 pages, a number of tables of data, two pages of bibliography, and is illustrated with diagrams of testing apparatus.

The objective of Dr. Long's experiments was to make a scientific evaluation of the motor skills of deaf children in comparison with the corresponding skills of hearing children. The incentive for the experiment came from the address made by Professor Paterson at the Faribault Meeting of the Convention of American Instructors of the Deaf in 1929, and particularly from two statements: That the deaf child's chief asset is his motor ability, and that the average deaf child is inferior to the average hearing child to the extent of being two or three years retarded in motor ability at the age of sixteen. Dr. Long recognizes the difficulty of making such an evaluation but says in defense of his tests, "However, we have selected what seem to be the fundamental abilities, and the results should at least give reasonable grounds for inferring how the deaf compare with the hearing in motor skills in general. If there is any wide and fundamental difference between the two groups in this field, a few trustworthy tests should serve to reveal it."

An experimental group was taken from the Institution for the Improved Instruction of Deaf-Mutes, Lexington Avenue, New York City. The entire Jewish population of the institution was tested. A control group was found in the Hebrew Orphan Asylum of the City of New York, 138th Street and Amsterdam Avenue, an institution containing 800 children, all Jewish. The groups were equated only for age, sex and race. The experimenter defends this action by the following arguments: The smallness of the groups limits

[1] Contributions to Education, No. 514, Teachers College, Columbia University, New York City.

the variables susceptible to equating; age and sex are, without question, necessary variables; racial traits are widely variant in Jews and Italians (the population of the institution for the deaf consisted mainly of these two races, the Jews being in the majority), the experiments of Schultz and Bere showing that the Jews are superior to the Italians in intelligence but inferior in motor abilities; it is difficult to evaluate training and qualities of character, and they are not of so great importance as race, sex and age; physiological factors are roughly equated by the age and sex variables; and the non-language tests of Pintner and Paterson reveal an inferiority in intelligence of deaf children to that of hearing children, but the performance tests of Drever and Collins reveal no inferiority on either side, so, since the performance tests are more closely related to tests of motor skills, the results of Drever and Collins are accepted. Dr. Long also contends that the correlations between mental and motor abilities have been found so consistently small that the question of mental ability could be disregarded.

The tests were given to 87 pairs, 51 pairs of boys and 36 pairs of girls between the ages of eight and seventeen. Due to the fact that the Spool-Packing test was given to the deaf subjects in December, 1929, and the rest of the battery in January and February, 1930, it was necessary to choose two control groups in order to allow for the change in ages. The tests were administered at the Orphan Asylum in March and April, 1930.

Dr. Long catalogues briefly the battery of tests as follows: "Five of the six tests of the Stanford Motor Skills Unit constituted the main portion of the equipment used in this study. The Stanford Unit was organized by R. H. Seashore . . . after a survey of more than twenty techniques for measuring serial action. The apparatus adopted consisted of (1) Brown Spool-Packing (Seashore-Tinker modification), for measuring speed in bimanual co-ordination; (2) Serial Discriminator, to measure speed of finger movements in discriminative reactions to a visual series; (3) Koerth Pursuit Rotor, for measuring eye-hand co-ordination in following a target moving in a circular path; (4) Tapping

Key, for measuring speed of finger and forearm movement; (5) Miles Motility Rotor, for measuring speed in turning a small hand drill. . . . In addition to the above we used (6) Smedley Hand Dynamometer, to give a simple measure of strength, and (7) Balancing Board, to yield a rough measure of the sense of balance in which the deaf are recognized to be very deficient."

The greatest question met with in the administration of the tests was how to present them in such a way that no advantage would accrue to either group. Oral directions would have been favorable to the hearing group; pantomime would have favored the deaf group, as pantomime is their mode of conversation; and written directions would have been too unwieldly and difficult for the younger subjects to understand. The method adopted was to demonstrate the apparatus and allow each subject one practice period, the periods being as nearly equal as circumstances would permit. The aim of this technique was not only to be equally fair but to give each subject a perfect understanding of how to operate the machines and of what their purpose was. The subjects were divided in groups of five and run through the whole battery, except the Spool-Packing test, at once. In the practice the quickest subjects were allowed to practise first so that the slower ones might benefit by observation. Distractions for the two groups differed, those for the deaf being visual, for the hearing children auditory; so all efforts were made to keep them at a minimum.

The analysis of data was based on the performances of the subjects. The mean scores of the two groups in each test were compared and use was made of "all intermediate data necessary to arriving at the determination of the reliability of the difference between the means." The formulae for the analysis of these data were taken from Holtzinger's "Statistical Methods for Students in Education."

The analysis showed the deaf children to be superior in eight tests, the hearing children in six. However, the superiority of the deaf in two tests was small, and in one so small as to be almost negligible. Both sexes of the deaf were superior in three tests, Spool-Packing, Tapping and Motility

Rotor, all three of these tests featuring speed of muscular action. The author offers as an explanation of this superiority the fact that the deaf are not susceptible to auditory distractions and hence can concentrate better. The only test in which any great superiority was discovered was the Balance Board and deaf children are notorious for their poor balance, which is closely connected with their disability. Both sexes of the deaf were also found to be inferior in the Serial Discriminator test. Making a good score in this test depends on responding as rapidly as possible by pressing a key corresponding to a number revealed by a revolving disc, these numbers ranging from one to four. Pressing on the wrong key yields no result. Mistakes are penalized by loss of time. The author doubts that educational retardation wholly explains the inferiority of the deaf found on the test as the difference is almost as great between the older pairs, who should be able to recognize the numbers, as that between the younger. He advances the hypothesis that the deaf child is not required by his parents and teachers to be alert and tends to react in a more leisurely manner, but Dr. Long presents, in refutation, the greater demand on visual alertness among the deaf. He tends to accept the hypothesis that the child who is cut off from any one avenue of knowledge slows up in performance all along the line. The deaf boys were superior to the deaf girls throughout, and more so in each of the tests in which the deaf of both sexes excelled; less inferior in those in which the hearing children of both sexes were superior; and superior in two tests in which the deaf girls were inferior. Dr. Long assumes this inferiority of the deaf girls to be due to the more secluded life led by young girls, which is exaggerated for those who are handicapped.

The two groups as a whole—hearing and deaf—are about as nearly equal in motor abilities as they can be, according to Dr. Long. However, he suggests that the deaf boys "seem to be superior to hearing boys and the deaf girls inferior to hearing girls, in the motor abilities tested." He notes that these results agree with the results of Drever and Collins in estimates of mental ability as measured by skill in performance tests, for in Drever's test results the deaf boys

surpassed the norms of hearing boys and the deaf girls fell below the norms for hearing girls, but on the whole the deaf were not retarded.

Since the deaf do not differ widely from the hearing in motor skills in these tests, Dr. Long says that it is unfair to discriminate against the deaf as to motor abilities. He argues that a survey of industries would reveal many types of work in which the deaf, motor abilities being equal, would suffer no disadvantage.

He addresses the following to the schools for the deaf: "For schools for the deaf the implication of the study is that strong emphasis should be placed on industrial training. Such schools should reap the maximum returns by stressing education along the line of abilities in which the deaf child seems to have his best chance to compete with the hearing child."

Summary and Conclusions

1. The author investigated certain motor abilities of deaf children by comparison of scores made on performance tests by deaf and hearing groups.

2. The groups—51 boys and 36 girls ranging in age from eight to seventeen—were equated for age, sex and race, all subjects being Jewish.

3. "The tests used were: (1) Spool-Packing, (2) Serial Discriminator, (3) Pursuit Rotor, (4) Tapping, (5) Motility Rotor, (6) Strength of Grip, (7) Balance. The first five of these were adapted from the Stanford Motor Skills Unit, although the techniques of administering these tests were altered considerably, as was also the actual form of the apparatus in tests 2 and 5." These alterations were made to insure equal fairness to the two groups and perfect understanding of the aim in performance.

4. The Spool-Packing test was administered to the groups as wholes and separate from the rest of the battery. The remaining six tests were given, in one visit, to groups of five.

5. Mean group scores were the basis for comparisons. These means were tested for reliability.

6. "On the whole, in the tests used, the deaf boys proved superior to the hearing boys and the deaf girls inferior to

the hearing girls. With the sexes combined, the deaf and the hearing groups were about as nearly equal, on the average, in the motor abilities tested, as they could be."

7. In each of the seven tests, the deaf girls were more inferior to the deaf boys than were the hearing girls to the hearing boys.

8. "Both sexes of the deaf were superior to the hearing in the Spool-Packing, Tapping and Motility Rotor tests, although in the case of the Tapping test, the superiority of the deaf girls was quite insignificant. It is a striking fact that the three tests in which the deaf were most uniformly superior are the three that are most influenced by sheer muscular speed as a factor making for success."

9. The hearing subjects of both sexes were superior in the Serial Discriminator and Balance tests. The author presents the possibility that the inferiority of the deaf in the former test is due to educational retardation.

10. The only test in which the difference of means was large enough to be of significance was the Balance test. The test was crude, but the difference was so great that the inferiority of the deaf in balance may be assumed to be genuine.

11. "Except for the condition of a poor sense of balance, the deaf cannot justly be discriminated against vocationally on the plea that they are, in general, inferior in motor abilities. Schools for the deaf should have regard for this fact in determining the emphasis to be placed on strictly vocational training. We must realize, of course, that the mere fact of deafness must seriously limit one's opportunities. In most occupations, hearing is essential for efficient performance, and in many it is necessary for physical safety."

Thoughts Suggested by Dr. Long's Study

Concerning Dr. Long's equating of the groups much can be said. That age and sex are of prime importance in any such study is undeniable. Of other possible variables that of race seems to lend itself more readily to exact equation for so small a group. However, it may be suggested that a similar study with a larger and more representative experi-

mental group might reveal the possibility of equating for other variables more applicable to the deaf in general.

That training and qualities of character are not of great importance is doubtful, especially in the case of deaf children whose vocational training is considerably more extensive than that of hearing children. Besides, Dr. Long, himself, says that emotional characteristics might have some influence on the results; he cites as an example nervous instability, which would probably help a subject in the Tapping test and hinder him in the Serial Discriminator test. Dr. Long asserts that physiological factors are roughly equated by the age and sex variables; that is true, but in a group as small as those tested the equation is likely to be very rough. Further, that correlation of mental and motor abilities is quite small is still an open question. However, one must not be too critical of Dr. Long's equation in these respects for, as he says, it is difficult to correlate such small groups in many variables.

Without intending to detract from the importance of Dr. Long's analysis of the data, we would say that in his explanation of why the deaf children of both sexes excelled in the three tests depending on speed of muscular reaction he may not have taken into consideration one point. He says that the absence of auditory distractions probably made it possible for the deaf to concentrate better than the hearing subjects; he apparently does not take into account the matter of visual distractions. No one but a deaf person can fully understand how much the slighest movement will distract him, and the deaf are, many of them at least, troubled with what is known as head noises, which, "with all efforts made to keep them (distractions) at a minimum," would have some influence.

Another matter evidently not considered in Dr. Long's study seems to have been the comparative rate of improvement in motor skills shown in the means for each successive chronological age, for the deaf group and the hearing group, respectively. It is probable that in a group so small the findings would be very unreliable; but the subject is an interesting one considering the fact that deaf children are using their hands at all times and more than hearing children, for

the average deaf child converses almost entirely with his hands and is given more vocational training than the average hearing child.

Then we must consider the smallness of Dr. Long's groups again in evaluating his findings, because 87 subjects do not make so large a group that the conclusions can be accepted as perfectly decisive. However, Dr. Long does not contend that his findings are positively correct. He is pioneering in a field in which little experimenting has been done. His results are placed before the psychologist's world to await confirmation or modification, and Dr. Long would probably be the first to welcome any further conclusive evidence on the question.

The testing of motor abilities is a matter of great import to us since it is closely connected with both the vocational education of the deaf and with their welfare in the world. Vocational education is a very important branch of the education of the deaf, and tests of motor abilities will be of aid in deciding how much emphasis is to be given to that branch. Also, it is possible that improvement in these tests and techniques may some day make it possible to adopt a scientific plan for vocational guidance of deaf children.

Dr. Long's study is a noteworthy research enterprise in an almost wholly unexplored field. A careful study of it should produce much serious and fruitful thought among those interested in the deaf and their education. Not the least of its values is the possibility that it may prove to be both a foundation for, and a stepping stone to, further study of a problem of vital importance to the deaf.

ALAN B. CRAMMATTE,
Graduate Student, Gallaudet College,
Washington, D.C.

THE PRODUCTION OF A TONE BY THE HUMAN VOCAL MECHANISM

In the production of a tone by the human vocal mechanism the lungs are the motor power, the breath is the means used and the organ of voice is the instrument. The vocal

cords are the vibrating element; the larynx, pharynx, nasal cavities and the mouth make up the resonance tube. The upper resonators—the maxillary, the frontal, the sphenoid and the ethnoid sinuses—are also active in the production of a tone.

The organ of voice is a reed instrument, the vocal cords being the elastic, membranous reeds. There are two types of reed instruments, one in which the tone conforms to the air in the column, and another in which the vibrating instrument determines the tone. The organ of voice belongs to the latter type.

Regular vibrations produce *musical tones,* and irregular vibrations produce *noises.* A tone by the human vocal mechanism, being produced by regular vibrations, is a musical tone, whether it is used in speaking or in singing. In speaking, the unity necessary to be appreciated in a musical sense is lacking. The rhythmic occurrence of sustained tones and the bound from interval to interval in singing, and the rise and fall of the voice in a continuous motion in speaking, constitute the principal difference to be found in the two phenomena.

In response to an impulse to speak or sing, the vocal cords are tensed and closely approximated. The breath is thrown against the vocal cords from below; they are pushed upward, executing the first movement in the pendulum swing of a vibration. The breath is emitted; they swing back to an equal distance below the normal line of approximation and then back to normal, completing the swing or vibratory movement. The vocal cords, while executing this movement as a whole, fall naturally into aliquot part vibrating segments—halves, thirds, fourths, fifths, sixths and so on. The whole vibration gives us the fundamental tone;[1] the half-segments produce the first partial, or first overtone; the third-segments produce the second partial, or second overtone, and so on until we have as many overtones as are produced with that particular tone. All tones have

[1] Some authorities give the fundamental tone as *the first partial.* Logically they are right. However, in a general treatment of the subject, it is helpful to regard *the first overtone* as the first partial.

six, eight or more of these overtones. The segment vibrations are superposed upon the fundamental vibration and have a vibrating frequency of two, three, four, five, six, etc., times the vibrating frequency of the fundamental tone. This creates the compound form of the sound wave, and upon that form depends the quality of the tone—the greater the number of partials, or overtones, the more pleasing is the tone.

The upper partials, or overtones, are the *harmonies* of a musical tone. Helmholtz designates them as follows:

> The first upper partial tone is the upper Octave of the prime tone, and makes double the number of vibrations in the same time. If we call the prime *c*, this upper octave will be *c'*.
>
> The second upper partial tone is the Fifth of this Octave, or *g'*, making three times as many vibrations in the same time as the prime.
>
> The third upper partial tone is the second higher Octave, or *c''*, making four times as many vibrations as the prime in the same time.
>
> The fourth upper partial tone is the major Third of this second higher Octave, or *e''*, with five times as many vibrations as the prime in the same time.
>
> The fifth upper partial tone is the Fifth of the second higher Octave, or *g''*, making six times as many vibrations as the prime in the same time.
>
> And thus they go on, becoming continually fainter, to tones making 7, 8, 9, etc., times as many vibrations in the same time as the prime tone.

The number of pendulum swings, or vibrations, which the vocal cords make per a unit of time determines the pitch of the fundamental tone, and this frequency is governed, in turn, by the length, thickness and tensity of the vocal cords. The pitch of the fundamental tone determines the relative pitch of the overtones.

The volume—loudness or intensity—of a tone is determined by the amplitude of the vibrations, or, in other words, the distance which the vibrating instrument swings to each side of its normal position. This is, in turn, governed by the force of the breath, and upon whether the glottis, or chink between the vocal cords, is closed. Helmholtz states that the glottis must be closed perfectly, completely interrupting the air, or the tone can not be powerful.

As water waves are visible, and their movements essentially the same as sound waves, we shall consider their movements and transmission first, using the timeworn

analogy of a stone thrown into a pool of water. By throwing a stone into a pool of water, waves are produced. The size (depth) and length (from crest to crest or from trough to trough) of the waves depend upon the force used and the size of the stone and the consequent amount of water displacement. The particles of water in the wave produced do not move to the edge of the pool; their movement is of a circular or oscillatory character—the displaced particles are pushed forward and upward, and then fall back into their normal position. The first wave in its movement imparts the sum of its individual motions to the water ahead of it, and thus produces the next wave. As the waves progress, the *force* is met by an increasing amount of resistance due to an increasing water quantity, and the size of the waves decreases as the quantity of resistance increases.

As has been stated, the movements of a sound wave are essentially the same as a water wave. According to Helmholtz "The principal difference consists in the spherical prolongation of sound in all directions through the atmosphere which fills the surrounding space, whereas the waves of water only advance in rings and circles on the surface."

Each sound wave consists of one condensation and one rarefaction within the length of the wave. On the surface of the water the mass of water being compressed can slip upward and form ridges. In the air there is no unoccupied place for the escape of the compressed air; therefore, in a sound wave the ridges are replaced by condensed strata of air, and the hollows by rarefied strata. The air particles, like the drops of water, travel only a limited distance and back, "while the wave itself remains merely a progressive form of motion, continually composed of fresh particles of air." (Helmholtz). The sound wave imparts the sum of its individual motions to the air particles ahead, creating the next sound wave. The laws of resistance which govern the transmission of a water wave apply also to the sound wave.

The original sound wave is feeble. In its passage through the resonating chambers, there is a continuous process of

modification and amplification by means of resonance. The tube-like shape of the series of chambers prevents loss of power due to the spreading out of the tone.

Resonance is sympathetic vibration. The sound wave coming into contact with the air in the resonating chambers forces the air into sympathetic vibration, thus adding to the volume of the sound. Resonance results also from the union of a reflected wave and a direct wave. Sympathetic vibration has the same vibrating frequency as the original compound sound wave. In speech, some of the sympathetic vibrations may be vibrating in unison with the fundamental tone, and others with one of the overtones, and so on until all are affected—some amplified and others damped.

There is a diversity of opinion in regard to the amount of resonance gained by the sound wave in its passage through the larynx; there is, also, a lack of definite opinion in regard to the part, if any, played by the false vocal cords and the ventricles of Morgagni in the production of resonance.

Broadhouse designates the ventricles of Morgagni, or "ventricles of the larynx," as cavities for the secretion of the mucous membrane. If that is their only function, there can be no modification or amplification of the sound wave until it reaches the chamber above the false vocal cords; in fact, the effect is to project the original sound wave into that chamber.

Helmholtz says:

> The air chambers connected with the larynx are not adapted for altering the tones of the vocal cords. Their walls are so yielding that they cannot allow the formation of vibrations of the air within them sufficiently powerful to force the vocal cords to oscillate with a period which is different from that required by their own elasticity.

In that statement Helmholtz clearly refers to the vibrations of the vocal cords which produce the original sound wave; so, the only point gained is his reference to *"the air within"* the chambers. The vocal cords, being prolonged in a direction parallel with the current of air, "not only their edges, but the whole surfaces are thrown into vibration." The logical conclusion is: That the air within the

ventricles of Morgagni is thrown into vibration, and, as a result of that, the false vocal cords, being elastic media, become factors in the production of resonance.

Even granting that no resonance is produced by the false vocal cords through the agency of vibrations underneath, the rebound of the compressed air particles in the sound wave in the air above would set the false cords to vibrating. Mariotte's law may be cited: "When air is compressed by any force whatever, it will rebound with as much force as was originally put into it," and "The more pressure is applied the more dense does the air become; and the more dense it becomes the more pressure will it exert in the opposite direction when released." When the vocal cords in the pendulum swing of a vibration swing back an equal distance below the normal line of approximation, it is followed by the sound wave in the rebound of the condensed air particles on their way back to normal.

Accepting a union of the second and third hypotheses: The reflection of the waves from the overhanging walls of the false vocal cords, a degree of diffraction as the waves pass through the opening between the false cords, the air in the larger chamber above, the slightly-backward inclined epiglottis, each, in its turn, contributes its share to the modification or amplification of the tone, limited though that share may be.

The sound wave then passes into the pharynx where it is slightly deflected forward and divided into two waves, one wave passing into the mouth and the other into the nasal cavities. The soft palate is a determinant in the amount of air going into the respective waves. The air in the upper resonators, or sinuses, is set to vibrating, adding materially to the volume of vibrations. Reflection of the waves from the overhanging walls is also a part of the process of amplification. By the time the sound wave reaches the outer edges of the lips all of the air in the resonating chambers and upper resonators is vibrating. It is this amplified, modified form of sound wave which is transmitted to the ear, converted into nerve impulses and interpreted as tone, or sound.

The part which the walls surrounding the organ of voice and secondary resonators perform in the transmission of vibrations and in the production of resonance is not clearly defined, but that they do function in the process can not be doubted.

The length of the sound wave varies with the pitch. Tyndall says that sound waves in the conversation of a man vary from eight to twelve feet, and in that of a woman from two to four feet. In the lower sounds the voice of a woman in conversation is more than an octave higher than that of a man, and in the higher pitched voices two octaves higher.

The length of these waves is easily computed from known facts. At a temperature of 0° Centigrade sound has an approximate velocity of 1,092 feet per second. A tone of the pitch of Middle C has a vibrating frequency of 256 per second, which gives each vibration a wave length of four feet, three inches plus; and a tone an octave below Middle C with a frequency of 128 produces a wave length of eight feet, six inches plus. The length of the sound waves increases as the vibration frequency decreases. While the length of the sound waves is determined by the pitch, the number of these which succeed each other in the air, or, in other words, the distance they travel before dying out, depends upon the *extent* of vibration, or force, communicated to the original wave by the amplitude of the vibration of the vocal cords.

There are factors which affect the natural quality of the tone. To use again the analogy of a stone thrown into a pool of water, the rock thrown with too much force produces an excess of splash—a waste of motor power; thrown without enough force, the waves are low and few in number. Just so, the breath thrown against the vocal cords with too much force produces a breathy tone, lacking in volume—a waste in power and a loss in the quality and volume of the tone.

Waves of water thrown against a solid surface are thrown back with decision; striking against soft sand, much of the force of reflection is lost by the sand absorbing the shock. In like manner, the sound waves striking against the hard,

healthy surface of the walls of the resonating chambers produce a definite reflection; striking against a disease-softened, thickened, inflamed surface, much of the quality and volume to be gained by reflection is lost.

Excitation or stimulation of the emotions also affects the timbre and volume of the tone.

When the upper partials predominate, bright, cutting voices are produced, and the predomination of lower partials produces soft, dull tones. Helmholtz says: "The quality of tone in cutting, screaming voices may, perhaps, be referred to a want of smoothness or straightness in the edges of the vocal cords to enable them to close in a narrow slit without striking one another. This circumstance would give the larynx more the character of striking tongues, and the latter have a much more cutting quality than the free tongues of the normal vocal cords."

The human voice characteristic is produced by the addition of overtones to the fundamental tone, and the modification and amplification resultant from the size and shape of the resonating chambers and the upper resonators, just as "the different admixture of overtones in the different instruments renders their clangtints diverse and therefore distinguishable."

Speech characteristics are produced by mouth resonance. There is a definite adjustment of the speech mechanism for each speech sound. The shape of the cavity of the mouth for a specific sound gives to that sound a characteristic resonance by reinforcing the particular tones (fundamental or overtones) which correspond to its characteristic. Dr. Pole says that in the majority of cases, the strength of the overtones is much varied by modification in the form and contents of air spaces, that in proportion as these are altered, either by the lips, the jaws, or the tongue, so the resonance is made to correspond with special notes, and that the consequence of this is to strengthen overtones which approach nearest to these and to damp the others. Tyndall gives the following examples from Helmholtz for the production of—

1. The sound "u" (*oo* as in hoop) . . . The fundamental tone itself of the vocal cords is reinforced while the higher tones retreat.

2. The vowel "o" . . . The overtones which lie in the neighborhood of the middle *b* of the soprano come out strongly in the case of this vowel.
3. "Ah" . . . In sounding "Ah" those overtones are most strengthened which lie nearer the higher *b* of the soprano. As the mouth is in this case wide open, all the other overtones are also heard, although feebly.
4. "A" and "E" . . . The hinder part of the mouth is deepened, while the front of the tongue rises against the gums and forms a tube; this yields a higher resonance-tone, rising gradually from "A" to "E" while the hinder hollow space yields a lower resonance-tone, which is deepest when "E" is sounded.

The writer desires to express indebtedness to the following authorities on sound: Airy, Pole, Broadhouse, Fillebrown, Tyndall, Helmholtz and Fuller, Brownlee and Baker.

MARIETTA RECTOR VINSON,
Instructor in the California School,
Berkeley, Calif.

AN ANALYSIS OF THE FIRST-YEAR VOCABULARIES OF THE PUBLIC RESIDENTIAL SCHOOLS FOR THE DEAF IN THE UNITED STATES—III

[The following section is a continuation from the ANNALS for March, 1933, pages 120 to 131. In two previous sections of this study, Dr. Groff analyzed the data obtained on the size, grammatical form and content of the vocabularies taught children in their first year in schools for the deaf. The content study included a tabular presentation of 978 different words, made up of 558 nouns, 179 verbs and 241 among the remaining parts of speech. A feature of this presentation was a comparison with similar lists prepared by Gates for hearing children.

In the section that follows, Dr. Groff proceeds to an analysis of the noun group in the vocabulary content, according to method taught, that is, speech, lip-reading, writing and print-reading. The lists of nouns are given in an ascending order according to frequency of use, the headings "1-10," "11-20," etc., referring to the number of schools in which the respective nouns were reported taught.—*Editor,* ANNALS.]

TABLE IX

Frequency of Nouns in Speech Vocabulary

1–10	1–10	1–10	1–10
afternoon	Christmas tree	goose	moth
apron	church	good morning	moving picture
airship	circus	gravy	mice
back	clock	ground	mug
bag	cloth	gum	nail
balloon	closet	hairbursh	napkin
banana	cloud	hammer	neck
barber	cocoa	ham	necktie
barn	cocoanut	hall	nickel
barrel	coffee	hand	needle
bath	collar	handkerchief	nest
bathtub	corner	hay	night
bat	cooky	head	nurse
bean bag	corn	heart	onion
beans	cracker	hen	orange
beads	crayon	hoe	overcoat
bear	cream	hole	owl
bed	cry baby	hook	pail
belt	cone	hoop	pan
bell	daddy	hospital	pants
bench	day	hose	papa
bill	deer	ice	party
biscuit	desk	ice-cream cone	paste
birthday	dime	iron	pasture
bloomers	dinner	jelly	pea
bonnet	dish	kitten	peanut
bottle	doctor	knee	pear
bowl	dollar	key	pen
breakfast	donkey	ink	pencil box
bridle	doughnut	lap	penny
bucket	drawer	lamb	pepper
broom	drum	lamp	perfume
brother	Easter	leg	phone
buffalo	Easter egg	lemon	picnic
bun	elbow	lemonade	picture
butterfly	elephant	letter box	pillow
button	eraser	light	pipe
bunny	fern	lion	pitcher
bush	feather	lightning	pistol
bud	fence	lip	plate
bus	feet	lollypop	park
calf	finger	lullaby	plaster
camel	fire	mama	plum
can	farm	match	pocket
cart	fog	medicine	pointer
card	football	men	plant
cereal	fox	mirror	pony
chalk	frog	mitten	popcorn
chapel	fur	money	pond
cheek	garters	monkey	post card
chart	garden	month	potato
cheese	glass	morning	pop
chicken	glasses	mount	pump
Christmas	God	movies	pumpkin
churn	glove	muff	puppy

FREQUENCY OF NOUNS IN SPEECH VOCABULARY, *Continued*

1–10	1–10	1–10	21–30
purse	stamp	zoo	letter
punch	stick	January	meat
radio	stocking	February	milk
rag	stone	March	nose
rain	stool	April	nut
raincoat	store	May	paper
rake	stove	June	pencil
rat	strawberry	July	rabbit
ribbon	string	August	soap
rainbow	sugar	September	star
ring	suit	October	table
river	supper	November	toe
road	sweater	December	Tuesday
rolls	syrup		Wednesday
room	tablecloth	11–20	Thursday
rooster	tablet	basket	Friday
rope	tail	bee	Saturday
rubbers	tea	blouse	
rubber	teddy bear	brush	31–40
rug	teeth	butter	bird
seal	telephone	cent	boat
scarf	thread	chair	cake
saddle	tiger	door	candy
Santa	thunder	dress	car
Santa Claus	toast	duck	coat
salt	toothbrush	ear	comb
saucer	tongue	egg	cup
saw	toothpaste	face	dog
school	towel	flag	doll
scissors	town	floor	eye
screen	train	fly	flower
seed	tray	goat	foot
shelf	trousers	grass	girl
sheet	trunk	gun	home
shell	tub	hair	horse
shirt	turkey	hat	house
show	turtle	horn	moon
shoulder	umbrella	ice cream	mouse
shovel	valentine	kite	pie
sidewalk	vase	leaf	sheep
shop	wash cloth	marble	spoon
sister	wagon	pig	tie
sheik	waist	pin	woman
skirt	wall	sky	Sunday
slate	watch	soup	Monday
sled	watermelon	tree	
slip	wing	window	41–50
snowball	week		arm
snake	whip	21–30	baby
snowman	whiskers	apple	ball
skate	wind	auto	book
slipper	window sill	box	boy
snow	women	bread	cat
socks	woods	cap	cow
spool	worm	fan	father
squirrel	yard	good-bye	fish

FREQUENCY OF NOUNS IN SPEECH VOCABULARY, *Continued*

41–50	41–50	41–50	41–50
fork	mother	sun	top
knife	mouth	thumb	water
man	shoe	tooth	

TABLE X

FREQUENCY OF NOUNS IN LIP-READING VOCABULARY

1–10	1–10	1–10	1–10
afternoon	cabinet	dollar	hay
airplane	cabbage	donkey	head
apron	calendar	doughnut	heart
airship	calf	drawer	hoe
back	camel	Easter	hole
bag	can	Easter egg	hook
balloon	cart	elbow	hoop
barber	card	elephant	hospital
barn	carpet	evening	hose
barrel	carrot	eraser	ice
bath	ceiling	eyebrow	ice-cream cone
bathroom	cereal	eyelash	jump rope
bathtub	chalk	fern	iron
bat	chapel	feather	jello
bean bag	cheek	fence	jelly
beans	chart	finger	jacket
beads	cheese	finger nail	jack rock
bear	cherry	fire	jelly beans
bug	chin	farm	kiddie kar
bedroom	Christmas	flower bed	kitten
belt	churn	fog	kitchen
bench	church	football	ink
bill	circus	fox	lap
biscuit	clock	fountain pen	lamp
birdhouse	cloth	fur	lamb
birthday	closet	funny paper	lemon
blackboard	cloud	garters	lemonade
bloomers	cocoa	garden	letter box
bonnet	cocoanut	galoshes	light
bottle	coffee	glass	lapboard
bowl	collar	glasses	lion
bracelet	corner	God	lightning
breakfast	cooky	glove	lip
bridle	corn	goose	lollypop
bucket	cracker	good morning	lullaby
blackberry	cradle	grapefruit	locker
blueberry	cream	grapes	lettuce
broom	cry baby	gravy	mantel
brother	cuff	greenhouse	mama
buffalo	cupboard	grits	macaroni
bun	cone	ground	match
bureau	daddy	gum	medicine
button	deer	hairbrush	men
bunny	dime	hello	middy blouse
bush	dining room	hammer	mitten
bud	dinner	ham	money
bus	dish	Hallowe'en	mop
board	doctor	hall	monkey

FREQUENCY OF NOUNS IN LIP-READING VOCABULARY, *Continued*

1–10	1–10	1–10	1–10
morning	playroom	show	train
mount	plum	shoulder	tray
movies	pocket	shovel	trunk
muff	plant	sidewalk	tub
mule	pony	shop	turtle
moth	popcorn	sister	toy
muffin	pond	sitting room	umbrella
moving picture	porch	sheik	victrola
mice	post card	skirt	vase
mug	pop	sled	vest
nail	pudding	slip	wash cloth
napkin	pump	snowball	waste basket
neck	pumpkin	snake	wagon
necktie	puppy	snowman	waist
nickel	purse	skate	wall
needle	present	slipper	wash rag
nest	punch	socks	watermelon
newspaper	radiator	spool	wing
night	radio	squirrel	whip
nurse	rag	steps	whiskers
oatmeal	rain	stamp	wind
office	raincoat	stew	window box
onion	rake	stick	women
overalls	rat	street	woods
overcoat	raisin	stone	worm
owl	ribbon	stool	wreath
pail	rice	store	yard
pan	rainbow	stove	year
pancake	river	strawberry	zoo
pants	road	string	January
papa	rocking-horse	sugar	February
party	rolls	suitcase	March
paste	roller skates	suit	April
pasture	room	swan	May
pea	rooster	supper	June
peach	rope	sugar bowl	July
peanut	rubber (eraser)	syrup	August
pear	rubbers	tablecloth	September
pen	rug	tablet	October
pencil box	ruler	tail	November
penny	seal	tea	December
pepper	scarf	tea kettle	
perfume	saddle	teddy bear	11–20
phone	Santa	teeth	bed
piano	salt	telephone	bee
picnic	sauce	tennis racket	butterfly
picture	saucer	Thanksgiving	cent
pickel	saw	thimble	chicken
pillow	scooter	thread	Christmas tree
pinwheel	screen	tiger	crayon
pipe	seed	thunder	day
pitcher	shelf	toast	desk
pistol	sheet	tomato	drum
park	shell	tongue	egg
playground	shirt	tooth paste	feet
plaster	shoe string	town	fly

FREQUENCY OF NOUNS IN LIP-READING VOCABULARY, *Continued*

11–20	21–30	31–40	41–50
frog	basket	flag	doll
goat	blouse	floor	eye
grass	brush	foot	father
gun	butter	home	fish
hen	duck	letter	flower
kite	ear	milk	fork
knee	face	moon	girl
key	good-bye	mouse	horse
leaf	hair	nose	house
leg	hand	nut	knife
mirror	handkerchief	orange	man
month	hat	paper	mother
pig	horn	pie	mouth
pin	ice cream	tree	pencil
plate	marble	window	rabbit
pointer	meat		sheep
potato	Santa Claus	41–50	shoe
ring	soap		spoon
school	star	apple	sun
scissors	toe	arm	table
sky	toothbrush	baby	thumb
slate	towel	ball	tie
snow	trousers	bird	tooth
soup	turkey	book	top
stocking		boy	water
sweater	31–40	bread	woman
valentine	boat	cake	Sunday
watch	box	candy	Monday
week	cap	car	Tuesday
window sill	chair	cat	Wednesday
bell	cup	coat	Thursday
21–30	door	comb	Friday
auto	dress	cow	Saturday
banana	fan	dog	

TABLE XI

FREQUENCY OF NOUNS IN WRITTEN VOCABULARY

1–10	1–10	1–10	1–10
afternoon	bell	butter	Christmas
apron	bench	butterfly	churn
airship	bill	button	Christmas tree
back	biscuit	bush	church
bag	birthday	bud	circus
balloon	bloomers	bus	clock
banana	bonnet	calf	cloth
barber	bottle	camel	closet
barn	bowl	can	cloud
barrel	breakfast	cart	cocoa
bathtub	bridle	card	cocoanut
bat	bucket	chalk	coffee
bean bag	broom	chapel	collar
beads	brother	chart	corner
bear	brush	cheek	cooky
bed	buffalo	cheese	corn
belt	bun	chicken	cracker

FREQUENCY OF NOUNS IN WRITTEN VOCABULARY, *Continued*

1–10	1–10	1–10	1–10
crayon	hose	party	salt
cream	ice	paste	saucer
cone	ice-cream cone	pasture	saw
daddy	iron	peach	school
day	jelly	peanut	scissors
deer	kitten	pear	screen
desk	knee	pen	seed
dime	key	pencil box	shelf
dinner	ink	penny	sheet
dish	lamb	pepper	shell
doctor	lamp	perfume	shirt
dollar	leaf	phone	show
donkey	leg	picnic	shoulder
doughnut	lemon	picture	shovel
drawer	lemonade	pillow	sidewalk
drum	letter box	pipe	shop
Easter	light	pitcher	sister
elbow	lion	pistol	sheik
elephant	lightning	plate	skirt
eraser	lip	park	slate
fern	lollypop	plaster	sled
feather	mama	pocket	slip
fence	match	pointer	snowball
feet	medicine	plant	snake
finger	men	pony	snowman
fire	mirror	popcorn	skate
farm	mitten	pond	slipper
fog	money	post card	snow
football	mop	potato	socks
fox	monkey	pop	spool
frog	month	pump	squirrel
fur	morning	punpkin	stamp
garters	mount	puppy	stew
garden	movies	purse	stocking
glass	muff	punch	stone
glasses	moth	radio	stool
God	moving pictures	rag	store
glove	mice	rain	stove
goose	mug	raincoat	strawberry
good morning	nail	rake	string
gravy	napkin	rat	sugar
ground	neck	ribbon	suit
gum	necktie	rainbow	supper
hairbrush	nickel	ring	sweater
hammer	needle	river	syrup
hall	nest	road	tablecloth
handkerchief	night	rolls	tablet
hay	nurse	room	tail
head	onion	rooster	tea
heart	orange	rope	teeth
hen	overcoat	rubber	telephone
hoe	owl	rubbers	thread
hole	pail	seal	tiger
hook	pan	scarf	thunder
hoop	pants	saddle	toast
hospital	papa	Santa Claus	toothbrush

FREQUENCY OF NOUNS IN WRITTEN VOCABULARY, *Continued*

1–10	1–10	11–20	31–40
tongue	August	sky	baby
towel	September	soup	book
town	October	soap	candy
train	November	star	car
tray	December	toe	cat
trousers		tree	coat
trunk	11–20	window	comb
tub	auto		dog
turkey	basket	21–30	doll
turtle	bee	apple	eye
umbrella	blouse	bird	father
valentine	cent	boat	fish
vase	chair	box	flower
wash cloth	door	bread	fork
wagon	dress	cake	girl
waist	duck	cap	knife
wall	ear	cup	man
watch	egg	fan	mother
watermelon	face	foot	mouse
wing	flag	home	mouth
week	floor	horse	pie
whip	fly	house	sheep
whiskers	goat	letter	shoe
wind	good-bye	milk	spoon
window sill	grass	moon	sun
women	gun	nose	tie
woods	hair	nut	tooth
worm	hand	pencil	water
yard	hat	rabbit	woman
zoo	horn	table	
January	ice cream	Sunday	41–50
February	kite	Monday	arm
March	marble	Tuesday	ball
April	meat	Wednesday	boy
May	paper	Thursday	cow
June	pig	Friday	thumb
July	pin	Saturday	top

TABLE XII

FREQUENCY OF NOUNS IN PRINT-READING VOCABULARY

1–10	1–10	1–10	1–10
afternoon	bean bag	blouse	button
apron	beads	bonnet	bud
back	bear	bottle	bus
bag	bedroom	bowl	cabbage
balloon	bed	breakfast	calf
banana	bee	bridle	camel
barn	belt	bucket	can
barrel	bell	blueberry	card
basket	bench	broom	cart
bath	bill	brother	cent
bath robe	biscuit	brush	chalk
bathroom	birthday	buffalo	chapel
bathtub	blanket	bun	chart
bat	bloomers	butterfly	cheek

FREQUENCY OF NOUNS IN PRINT-READING VOCABULARY, *Continued*

1–10	1–10	1–10	1–10
cheese	frog	mama	plate
chicken	fur	mattress	plaster
chin	garters	match	plum
Christmas	garden	medicine	pocket
Christmas tree	glass	mirror	pointer
churn	glasses	mitten	plant
church	God	money	pony
circus	glove	mop	popcorn
clock	goose	monkey	pond
cloth	good-bye	month	post card
chiffonier	good night	morning	potato
closet	good morning	mount	pop
cloud	grapes	movies	pump
cocoa	grass	muff	pumpkin
cocoanut	gravy	moth	puppy
coffee	ground	moving picture	purse
collar	gum	nail	radio
corner	gun	nightshirt	rag
cooky	hairbrush	napkin	rain
corn	hammer	neck	raincoat
cracker	hall	necktie	rake
crayon	handkerchief	nickel	rat
cream	hay	needle	ribbon
cone	head	nest	rainbow
crib	heart	night	ring
daddy	hen	nightgown	river
day	hoe	nurse	road
deer	hole	onion	rocking chair
desk	hook	orange	rolls
dime	hoop	overcoat	room
dinner	horn	owl	rooster
dish	hospital	pail	rope
doctor	hose	pan	rubber
dollar	ice	pants	rubbers
donkey	ice-cream cone	papa	seal
doughnut	iron	party	scarf
drawer	jello	paste	saddle
drum	jelly	pasture	Santa
dresser	kitten	peach	Santa Claus
Easter	knee	peanut	salt
Easter egg	key	pear	saucer
egg	ink	pen	saw
elbow	lamb	pencil box	school
elephant	lamp	penny	scissors
eraser	leaf	pepper	screen
fern	leg	perfume	seed
feather	lemon	phone	shelf
feet	lemonade	piano	sheet
fence	letter box	picnic	shell
finger	light	picture	shirt
fire	lion	pillow	shade
farm	lightning	pillowcase	show
fly	lip	pin	shoulder
fog	lolly pop	pipe	shovel
football	lullaby	pitcher	sidewalk
fox	locker	pistol	shop

FREQUENCY OF NOUNS IN PRINT-READING VOCABULARY, *Continued*

1–10	1–10	11–20	11–20
sister	tongue	auto	tie
sheik	towel	bird	toe
skirt	town	boat	tree
sky	train	box	dress
slate	tray	bread	water
sled	trousers	butter	window
slip	trunk	cake	Sunday
snowball	tub	candy	Monday
snake	turkey	cap	Tuesday
snowman	turtle	car	Wednesday
skate	tumbler	chair	Thursday
slipper	umbrella	cup	Friday
spread	valentine	door	Saturday
snow	vase	duck	
soup	wash cloth	ear	21–30
socks	wagon	father	arm
spool	waist	face	baby
squirrel	wall	fan	ball
stamp	watch	flag	book
stick	watermelon	floor	boy
stocking	wing	foot	cat
stone	week	goat	coat
stool	whip	hair	comb
store	whiskers	hand	cow
stove	wind	hat	dog
strawberry	window sill	home	doll
string	woods	horse	eye
sugar	worm	house	fish
supper	yard	ice cream	flower
sweater	zoo	kite	fork
syrup	January	letter	knife
tablecloth	February	marble	man
tablet	March	meat	mother
tail	April	milk	mouth
tea	May	moon	sheep
teddy bear	June	mouse	shoe
teeth	July	nose	spoon
telephone	August	nut	sun
thimble	September	paper	table
thread	October	pencil	thumb
tiger	November	pie	tooth
thunder	December	pig	top
toast		rabbit	woman
toilet	11–20	soap	girl
toothbrush	apple	star	

MARNÉ LAURITSEN GROFF,
401 Wesley Temple Building,
Minneapolis, Minn.

COMPOSITION—A LIVE ISSUE

Teaching composition is such an interesting thing and the source of subject matter so wide, results can, eventually, be very satisfactory. But results do not come in a day and no teacher should be discouraged over the conglomerate mass that even a hearing child often hands in, in the untrained years, since the possibilities of development are so great, the game so full of inspiration.

We are all agreed that composition is taught to develop in the pupil the ability to express ideas. Such expression we recognize as self-expression and reproductive expression. Either may be intended to give information or to show reactions or opinions in which emotion figures in varied degrees; usually, if informative, it still involves reaction.

A description of a child's home gives information and may be classified as self-expression; a description of Washington's home would be informative, reproductive, unless the child has visited Mt. Vernon. A child's reaction to a circus or to the death of his pet dog would be classified as self-expression, whereas his reaction to the life of Lincoln and Washington would probably combine reproduction and self-expression. Early in his writing career, a pupil should be led to see that as he is able to throw something of himself into a story he gives the magic touch that transmutes the dross to gold.

I believe the deaf child can be led to understand beauty, emotion and strength in composition. I suppose, now, to save myself, I must add, not to the extent that the hearing child can; but this is an admission I never allow rooting depth in my mind. It is poor psychology for the teacher to see her deaf pupil as other than normal. Else, why hitch your wagon to a star? This throwing of himself into his theme is an early step toward strength of style.

By way of illustration: After a child has written a reproduction story, describing Mt. Vernon, get him, if it can be done naturally, to throw in some little personal reaction; as this from one of my students—"I wish that I could go and visit the rooms at Mt. Vernon and walk out on the

porch, and sit on a chair and look out on the lawn. It would bring me memories of George Washington's living here, chopping the tree, suffering at Valley Forge with his soldiers and doing his duty as the president of the United States." Not a wonderful paragraph but it gives us a "close up" summary that adds strength to the description; and, better still, the child has become a part—in his own consciousness—of this great picture. He is in it! This, as any other procedure, must not be overdone. All such results must seem to come naturally even though artificially induced by the teacher. Later, she can leave the development more and more, to the pupil.

When one pupil was about to write a description of the Great Salt Lake, I said, "After you tell us all that you have learned about the lake, tell us something that you think about it. I'll tell you what I think of the Mississippi river —it reminds me of a great snake with its head in the gulf of Mexico." I did not keep this story, but the pupil's reactionary paragraph was in substance: "The lake is like a big bowl that the water can never flow from, so it gathers more and more salt." Not so good. But here was a fine opportunity to develop imagination. I said to the writer, "How do you think the great bowl got there?" After some thought, "A giant put it there." "Why did he do that?" Again, much thought. At last, "He was going hunting so he did not need it."

The finished paragraph narrated how, going hunting, the giant had left his bowl and when he returned it was full of water. He tried to drink all the water out but at last he turned away and left it there, and so, after years and years, the water became salty.

While the teaching of composition admittedly has as its higher objective cultivating the ability to express ideas, it has, especially in teaching the deaf, a baser aim. It becomes a definite drill on vocabulary and on correct sentence structure.

This is not an incidental issue. It is purposeful, but the purpose is not emphasized to the child. We teach the child, for example, the noun superstition, and with it, the adjec-

tive, *superstitious.* Now shall we say, "I want you to remember these two new words, so write a story about them?" Not at all. Rather, let us say, "Are you superstitious, Jane? About breaking mirrors? Will you write a story about 'I Broke A Mirror'? John, can you tell us the superstition about black cats? Has anyone here ever known a person who looked at the new moon and made a wish? One who was afraid of Friday or of the number 13?" When the stories or paragraphs, for often only a paragraph is needed, are written, a word has been taught as a living, usable thing and at the same time, the ability to express ideas has been fostered.

There are certain recognized essentials for the writing of a good composition. The writer must have, (a) something to say plus a wish to say it; (b) a clear understanding of this thing to be discussed; (c) a sufficient vocabulary; (d) and an understanding of correct language form. The wish to write presupposes an incentive, natural or artificial, for if in the case of the pupil no natural incentive exists, the teacher must artificially create an impulse which so resembles the natural that the child is entirely disarmed. Thus the impulse appears natural. The impulse is to the composition what the preparatory lesson is to the reading lesson, each arousing in the child's mind a sympathetic reaction that is so necessary to success. As we discuss the types of composition, the impulse will be noted.

Too often a deaf child is plunged into a story with only a vague impression of his subject matter and an impoverished working vocabulary. As truly as this happens will his language be garbled. I think this explains the astonishing language that a bright child will often use in a history, a geography or a science lesson. If he is clear on his subject *and if his lesson vocabulary has been properly taught in class,* his language in examination will usually reflect his clarity of knowledge.

If a child is going to tell about his airplane ride, he must first be taught the necessary vocabulary—the parts of the plane, such names as pilot, airport, landing field and such flying expressions as took off, rose, came down, taxied, etc.,—

or the story must be written in class, under the teacher's guidance, for help in vocabulary.

One of our teachers asked me if Katie Billiter really wrote the story in The Driggs Hall number of the *Eagle* about Mr. Driggs' struggle to get the appropriation for Driggs Hall. I said emphatically, "Yes." But before Katie began her story, I gave her a lesson on the word "struggle." We spoke of her struggle as a little girl to learn to speak, of the struggle of France to save herself in the War, of how a person who could not swim would struggle to keep from drowning if he fell overboard from a boat. Then, when her mind was in a splendid reactionary state, I sent her to the office to learn from Mr. Driggs himself how he had struggled to secure Driggs Hall. And the *Nebraska Journal* did us the honor of reprinting Katie's story. The imagery of the blizzard and of the forest was original with her.

This story is a splendid example of the reproduction story enlivened by personal reaction.

Unusual subjects should never be given unless the soil has been well prepared. The effect is confusing and discouraging, two results that defeat the successful outcome of the teacher's effort to develop spontaneity of expression and enthusiasm of purpose.

If I should try to list the qualities that appear to me the important ones for us to seek to develop in our pupils, I should say, for the more advanced classes, clearness, compactness, unity, spontaneity, originality and beauty and strength of expression. For the younger children, clearness, compactness, unity and spontaneity.

If the teacher is able to call out to the limit of the child's mental development his self-expression, I should say that she has reached a very good measure of success, even though a few years later this same work should not be accepted as satisfactory.

I wish to illustrate with a recent experience. My class, that would be called slow, read the story of the magic whistle—oo—tree. The whistle which the whistle—oo—tree gave to Happy made wishes come true. Once, when stolen, it flew through the air and came right home to Happy's

pocket. When we had finished studying the story, I said, "Now I want each of you to write your story of a magic-tree." The impulse had been created in the study of the story and every child turned in his story on time. I read them all with genuine delight, in spite of such sentences as, "He was astonished that the magic tree *grow* up and walked," and, "It ran very fast than the world." Not all the sentences were poor and every story had a definitely magic note. There was self-expression in every one. Here are three of the plots.

(A) A little boy grieved because there were no trees near his house. He walked out to the hills, where he sat on a log, wishing he could have a tree. Presently, he felt the log moving and was astonished to see it turning to a tree. It started to go away and the boy followed. (If whistles can fly, why can't trees walk?) They came to his home and the tree stopped and never moved from that spot again, but "always sang for them and made them happy—" A beautiful story, indeed.

(B) A poor boy drove many sheep and goats to the mountain. He watched them while they ate the tall grass, but he was hungry for he had no food. He saw a tree and he broke a limb and "got a whistle." The whistle asked him if he would give the tree some water, so he carried some water and poured it around the roots of the tree. Then he lay down and went to sleep. In the morning, the tree was covered with pink and white blossoms. Night came again and the still hungry boy slept. "The sun shone on his face and he yawned his open mouth and woke up. He was surprised that the tree was growing many red apples," and he ate and was strong!

Another student plagiarized the Jack and the Bean-stalk idea. Golden apples grew on another tree and big, yellow pears on another. In spite of the mistakes in language, I considered these very satisfactory stories.

Every composition is a language study as indeed every arithmetic lesson, every geography lesson, every shop lesson should be. This idea is so basic that I need touch it only lightly as, for example, in the second magic-tree plot. "The

tree was growing many red apples'' isn't actually poor language but the opportunity is ripe here to teach that trees *bear* fruit, and so both enlarge vocabualry and strengthen style with the use of a specific word.

Sentences that are serious violations of correct grammatical structure we handle either in personal conferences or with the class as a whole. Again, in violation of a popular theory that incorrect sentences should never be put before the children, I often group the most strikingly wrong sentences and give them to the class for correction for the next day. On this day and as many other days as seem necessary, we have drills on these corrected forms.

Once before, in an article, I think I mentioned having several inches at the tops of the blackboards marked off with painted lines. From time to time, the mistakes in composition furnished suggestions for expressions that we write in these top spaces, always using the correct form here and using colored chalk for those words or phrases that need emphasis. Right now we have in a conspicuous place, ''I want to know (when, where, how, why, how many) subject, predicate (noun or pronoun, verb).'' And the rest of the space is filled with such expressions as, ''I want to know how many

we have
pigs ———— (the last two words in orange chalk). I want
n. v.

you feel father is
to know how ————; I want to know where ————,''
n. v. n. v.

etc.

The simplest form of connected composition is the live-language story. This takes early shape in the journals that our younger children write and it grows to bigger proportions in the interesting descriptions of trips, adventures and the countless experiences of later years.

The sources of live-language stories are everywhere, as abundant as life's pages are numerous. The teacher's responsibility is to awaken the wish and to develop the ability in the child, to tell of his experiences, to help him to see

that stories of very commonplace happenings can be interestingly told.

The impulse to express his ideas often arises in a child's wish to match experiences with another. A child loses a fountain pen and is very happy when someone finds it and returns it. Lost cats, lost jewelry, lost money, lost horses, lost babies and lost lesson papers come tumbling upon us, asking that their stories be heard.

A general statement such as, It Was Interesting, It Made Me Laugh (Angry, Sad, Happy, etc.), I Found It Under the Chair, It Was Not Very Large, Some Were Large and Some Were Small, He Said "No," The Box Was Gone (Empty, Broken), will bring a surprising variety of true stories. Such sentences have more suggestive impulse if gleaned from some story or some statement in the class.

When reading Roast Pig, the class encounters, "He burned his fingers" or "Hoti trembled in every joint" or "Bo-bo was ordered not to let the secret escape," or a dozen other such expressions, and you have as many subjects for compositions as you can use—a different one for each child or the same one to be discussed by each student—burns, frights, secrets.

Just an idea or a word in a reading lesson may suggest a story. Take again "The Whistle—oo—Tree." Stories can be written about wishes—I Wish That———or My Wish Came True; about, We Felt Sorry About It; He Was Very Sly; Our Neighbors Were Excited;———Tried to Cheat.

Or from "The Gift of the Magi," we get, I Wanted to Earn Some Money; It Was Hard To Do It; I Gave ——— a Big Surprise; ——— Was Dumbfounded; We Had a Happy Christmas; I Did Not Know Where To Go (What To Do).

These subects are not unique. Any one of them could be assigned any day, but there is a psychological time that is the right time for any major assignment and that time is when the child's mind, through some impulse, has been brought to a vigorous reacting condition. His mind clicks, so to speak, in response to the impulse.

On Washington's birthday, the children are served hatchet-shaped cookies. The time is ripe for vocabulary stories about Heart-Shaped Valentines, A Diamond-Shaped Flower Bed, A Queerly Shaped Cloud, Almond-Shaped Eyes. Such compositions are usually short, perhaps only a paragraph, done in class, exchanged and read, or given in exchange to be kept by another pupil and corrected. Such stories usually are full of spirit; the cookies have inspired them and the novelty of the many words built upon the one base (——— shaped), adds to the zest. Often, too, we do paragraphs using antonyms, one paragraph about a tragic act and one about an amusing incident; one about an enemy and one about a friend; one about an opponent and one about an ally; one about discouraged and one about encouraged.

From the simple reproduction of short stories such as we get in the splendid Croker, Jones, Pratt language books, we go with our grammar and high school classes into the research stories; stories upon the lives of great men and women, upon customs in other lands, upon famous places and historical happenings—How the Indians Helped the Pilgrims, for Thanksgiving; and the Story of the Wise Men, at Christmas, Trees Are Our Friends for Arbor Day; and, Some Noted Ships, on Columbus Day or Thanksgiving. There is no end to such subjects.

The interesting news of the day will suggest biographies, geographical research and topical subjects—The Radio, The Telephone, From Hand Cart to Automobile, Weapons, Past and Present; The Hoover Dam, Indian Reservations.

And here again the reading lesson serves us, providing abundant suggestions for research stories. "Coaly-Bay," Seton-Thompson's story of the outlaw horse, for illustration. We wrote about famous outlaws from Robin Hood to Al Capone, about the horse, his evolution from the tiny five-toed animal to the horse of to-day, about Rex, the King of Wild Horses, about other intelligent creatures, the ant, the homing pigeon, the spider and old Abe, the War Eagle. We might have gone further and done research work

upon the Arab and his horse, the famous horses of history, and others, but we did not. It is for each teacher to choose her subjects or lead her pupils to choose them.

Rex, for instance, was suggested by the girl who wrote about him; and while Bucephalus would have contributed more to the actual information of the class, Rex, to my mind, was the subject that the girl should be allowed to use.

Returning to "The Gift of the Magi"—for I am trying to keep my illustrations in the range of a few, well-known stories—the first research would be upon the magi, the queen of Sheba and Solomon, with the gift idea dominant. But we could go further—famous gifts (the head of John the Baptist; the sword, Excalibar, etc.), famous sacrifices (Isaac offered by Abraham; Jephtha's daughter), the mammoth (a mammoth task), the tortoise (a tortoise-shell comb). Where shall we stop? Time and interest must decide.

The imaginative type of story takes the form of life fiction, of legend, of personifications and the fairy story and of the supernatural.

The little group of stories on the magic tree, spoken of earlier, illustrates this type as does the final paragraph in the Great Salt Lake episode above described.

The impulse for such stories arises largely in the reading course, although another class such as those entitled Mr. Examination, Giant Flu and Mother Nature, arise in life experiences. Even these stories are impelled, in kind, by such literature as "Hiawatha," "The Whistle—oo—Tree" and the countless beautiful imaginative things we find in our literature.

One of our prettiest groups from the standpoint of thought expressed had its inception while one class was reading "Hiawatha's Childhood." A study of legends was suggested by the beautiful legend of the rainbow, the heaven of all the flowers that fade and wither on earth, and the rather humorous one of the face in the moon, the face of the nagging grandmother who was thrown upon the moon by her irate grandson.

Several of the students knew the legends of the origin

of the giraffe's long neck, and of the robin's red breast. We discussed also in connotation the story of Excalibar, selections from "Why-So Stories" and other legends.

First of all we recognized that legends are not true, that someone has wondered how or why something has happened and has tried to explain it, for long ago people had no books and so many things puzzled them. They wondered why the volcanoes sent out fire, where the wind stayed when it was not blowing. And then they told the stories of Vulcan and Aeolus. These we read, too. With such preparatory work, children are ready to try their skill at writing legends and there is much interest in the class, as to how the different members work out the explanations.

Composition that induces either imagination or a sense of humor in the deaf child is of great value, not alone from the language standpoint as from the standpoint of appreciation and understanding. The deaf child is too literal.

A few years ago it seemed impossible to get a laugh from one of our students until we had explained the joke very fully. To-day that condition is much improved and I believe that one helpful element has been our composition of an imaginative and of a bantering type.

One of the most striking of the legends in my classes was a humorous one—"Where the Pig Came From." The subject and treatment were both the pupil's.

"A boy who would not eat grew thin and tall. One day as he was walking in the woods, a voice said, 'Eat all the nuts or die.' He began eagerly to eat nuts and he became very fat. His heavy body pressed down and made his legs short; then his feet broke in two, like pigs' feet and he had to use his arms for more legs because his body was so heavy. As he ran along, he fell into some tar. He pulled himself out of the tar and ran on and on till he came back to town and ran into a barber's shop where he was covered with the hair the barber had cut off that day. And that is where the pig comes from!" Wild imagination, truly, but not wilder than Gulliver's Travels or dozens of other imaginative stories.

The legend of the water lily told how a star longed to come to earth and live in the water with the pretty fish. At

last, the man in the moon heard of its wish and sent it to a pond where it floated on the water to give light to the fish and after a while was changed to a flower.

The "If" stories require mental conjury and take the child from the literalness of the ordinary live-language story. If I Were Mr. Driggs, If I Were Rich, If I Could Travel, If I Had Three Wishes, If We Were Living in 1731; etc.

Personifications are good; What Our Schoolroom Clock Told the Moon, The Story of the Crippled Chair, The Dance of the Leaves, The Convention of the Trees, When Night Fought With Day.

And the life fiction story. Left to himself, nine in ten deaf pupils will write about a poor little child who had no parents and who dropped into the lap of luxury through some happy circumstance. That plot is absolutely taboo in my classes. Why? Because it has been written and re-written until all emotional reaction is gone. It is a lazy, mechanical reproduction.

Early in the game we try to develop the wish to be original and interesting. We put a premium of praise on such a story and discourage the plagiarisms. The pupil soon catches the idea and does his best to think out an unusual plot. Such a story appeared in the school paper, *The Eagle,* a two-part story of twin brothers and their very different careers as men.

Quite by accident one of our class activities in fictional composition arose. But it was, we thought, so successful, we shall make it the basis for other work.

Several years ago, our fourth year high school founded a class paper, *The Optimist.* Last fall our first year high came to me with the suggestion that they found *The Booster* as their class paper, and I encouraged them to do it. But we struck a snag. The people who were putting out *The Optimist* objected—*The Booster* had no right to poach upon their preserves! For several days the thing was discussed, pro and con. Had we teachers failed after all to give the Fourth Year the right ideals? Were they leaving us self-centered and unsympathetic? One day I said to them

"Think this over. Are you being fair? Suppose *The Booster* meets you half way. Yours is a news sheet. If I should ask *The Booster* to leave the news to you, would you feel all right about it?" Naturally, if they persisted, we'd go on with *The Booster* but it would be much better for this thing to be solved in a generous fashion. It was. The next day *The Optimist* removed all objections and I went into session with *The Booster* crowd. We had to let news alone. What should be our program? After a while someone suggested a continued story. What kind? The preference was strong for a mystery story; one student, the editor, was to write the first chapter. Another student, after reading this chapter must write the second; another, the third, and so, till the story came to a conclusion. There were, I believe, five chapters. All chapters had to carry my approval. In a few instances, I helped to sustain the suspense. Otherwise the series was worked out by the class. With one exception, my suggestions were offered only after the chapter had been written and I saw a chance to strengthen it. I, for instance, suggested that as Michael went prowling around, he might see something to frighten him—a bloody axe, perhaps.

We kept our plan a secret and when Volume I, Number I appeared, there was immense excitement. Even *The Optimist* gallantly—and voluntarily—came out with a congratulatory paragraph and our intermediate and high school students watched eagerly for the next issue.

The story was called "The Haunted House." An old man, living in an old mansion in the country, left his money to his nephew, then in college. The nephew must come to the house on the fifth anniversary of his uncle's death and find the money. The nephew often dreamed of being a rich man.

On the appointed day, Michael, the nephew, and Jack, his servant, went to the mansion. As they neared the house, a black cat ran across the road in front of their auto. "The servant, who was superstitious, told Jack they would have bad luck." At midnight, as they started to open the door, it opened itself. "The two men stared with wide open

eyes and shrieked with fear." Thus ended Chapter I. (A comic strip was running at the time, in which Freckles, a little boy, was in the hands of kidnappers, and I called their attention to the fact that we were always left at a most exciting time, wondering what would come next.)

Chapter II began, "Two bright eyes were approaching the two men, standing in the door." As Michael and Jack drew nearer, the eyes disappeared. The house was black as a crow. They felt their way to the kitchen where a candle was burning. Jack picked it up and looked around, seeing a bloody axe. An owl flew over their heads. They hurried upstairs fearful of the crazy owner of the hatchet. They slept little that night because of the noises they heard. The next morning, Michael sent Jack to buy food and while he was gone Michael began his search for the money.

At this point the writer came to me saying she did not know how to end the chapter and I asked, "What did Jack see that excited him? Or that gave him some idea about where to find the money?" From this she built the rest of her chapter. He found no trace of the money and went to the window to watch for Jack, when suddenly he noticed some words written on the wall.

Chapter by chapter, it developed that Jack, also, was secretly searching for the money. He found it and was about to steal it when a blow on the head stopped him. Michael found him but while Michael was getting a glass of water to revive him he disappeared.

In the end it came out that the grandfather's lawyer and another man had been in the home all this time. They had left the bloody axe, made the noises and had felled Jack. Michael had stayed on, searching alone, till the lawyer had released Jack, who came and confessed to Michael. The lawyer appeared and explained that the uncle had required that this test be made of Michael's bravery. He had stood the test and the money was his. He forgave Jack and even gave him a nice sum of money.

As the chapters came out, there was much speculation among the students as to what would happen next and the writers may have gleaned some ideas from this. If so, I was

not so informed. Be that as it may, the story was a composite of the student idea.

Once one of the writers had a head with no body go floating through the air and I advised against their using anything that could not be explained naturally since this was a mystery and not a fairy story.

I spoke of the bantering type of story. No matter how simple the topic, if two students are given, not as a formal debate, two opposing sides of a question, they write with enthusiasm and especially so if one can banter the other. Let a boy write about, "If I Were a Girl" and a girl write about, "If I Were a Boy," or respectively, "I'm Glad I'm a Boy" and "I'm Glad I'm a Girl." Or let a good natured joke be written as when one of our boys wrote of how another's new haircut had led to his being told that his brother had come and of how another boy entered with a live rooster and presented him as the brother, and watch how soon the first boy, encouraged by you, will come back. "I'd like to wring Jack's neck for writing that story about me," he told me and I said, "Why wring his neck? Get a joke on Joseph and we'll use it in *The Eagle.*" We'll soon have a story about Joseph. I'm sure of that.

Then a girl wrote of her trip to the moon. It was rich with imagination. The wind, Northa, took her to the moon. She entered a mouth-shaped door. Just inside the door were large white posts, like teeth. The windows looked like eyes. In the end, she advised others to take this trip. After *The Eagle* brought out this story, I said to a congenitally deaf boy, "Why don't you go to the moon and tell Dolores what you saw?"

He went, shot from "A dynamite rocket." (A reward had been offered to the volunteer who would make the trip in the rocket). He sat at the steering wheel. The man in the moon was worrying because he had no matches to light the stars but the boy had some and gave them to him.—Buzz! Buzz! a comet nearly burned his face—and so on, until, when he came home, the inventor of the rocket rewarded him with the hand of his daughter, a home, a big car and lots of money, "and we shall live happy till we die."

The splendid thing about these bantering stories is not

only that they are written with enthusiasm but that they are read with equal interest by the other students. Not every good paper can go into the schoolpaper but there may be a clearance period when the best stories are exchanged and read.

It is our wish to lead our students to read stories written by each other and to give them, in the possibility of their getting their stories published, an additional incentive to write that has shaped our *Eagle* policy of issuing a student-written periodical. We believe that it has paid.

The dual-idea title is usually inspirational to the student. Goodbye, 1930—Welcome, 1931; Goodbye, Mr. Hoover—Welcome, Mr. Roosevelt; Our Former First Lady and Our New First Lady; Take A Rest, Books—Come on Vacation, are examples. I believe an attractively worded title is more alluring to the child than a stereotyped one. He would rather write about, "Come On, June" or "Take an Airplane, June" than he would about, "I'm Glad Vacation is Coming." I believe I found better reaction when I gave, "When Mrs. Hurst Says *Eagle* to Us" and "Socks! Socks Socks!" than if I had given, "Writing Stories for *The Eagle,*" and "The Girls are All Wearing Socks"; and "A Description of Miss Starr" would have been far less stimulating than, "Two Guesses!"

We disguise our left-overs from dinner with salad dressing and get a very palatable luncheon dish; so, commonplace topics grow more impelling if the real title is disguised attractively.

When we read a friendship story, why not have a friendship series of live-language, imaginative and research stories? The Famous Friendships of History (one each to a student, for a title should not be too comprehensive); My Friend; Mr. Rain; My Mother; My Father; A Friendless Dog; When We Befriended France; An Unfriendly Act; A Pleasant Friendship; Friendly Rivals, thus involving the various derivatives of the root word, friend.

In getting up research stories, the two points to be kept in mind are development of the child's ability to sift out important points and then to express these ideas in his own words. I'm still battling against the tendency of the child

to use and take credit for the wording of others—not a word, but whole phrases and sentences.

The story outline is a big help in this idea-sifting process. If a child has learned to make outlines for his own written work and to outline the work of others, he will more readily get the big ideas in his research on subjects for composition. Drills on variety of expression help the child to adapt the words of others to his use.

In making the outline of a story to be written we should regard not the paragraph, but the unit. A unit may involve several paragraphs. In "The Man Without a Country," I should say that the first unit, introducing Philip Nolan, takes in two, if not four, paragraphs.

So, let us teach our children to collect units, or ideas, for their stories. This may—probably should—be done, by the teacher's first giving the class an outline. This step may be taken thus;

The teacher, choosing always an easy topic for this first lesson in outlining, builds the outline with the class. Thus; our topic is, Coming Back to School.

I should like you to write the first part of this story. Do not write the story. Tell me, about,

1. Packing my trunk.

(Stimulating questions; Did you decide to begin packing your trunk or did your mother tell you to? Was this a happy or a sad day for you? Perhaps your trunk reminded you that it was time for you to pack it! Did you pack it in the morning or the afternoon? etc., etc.)

Some of the class will go blithely on and write the whole story but such papers must be destroyed. The children must learn here and now to write their units not their story, when so instructed.

2. The last meal at home.

(Stimulating questions; Which meal was it? Who were there? What did you talk about? etc.) And so the story is built under the teacher's hand.

The teacher may next take some story the children have not read and, making her outline of it, give the outline to the class, an original story to be built upon it, by each pupil.

Free rein here. These stories will then be exchanged and read. Finally, the class will read the story from which the teacher drew the outline. They are usually intrigued with the similarities and dissimilarities of treatment of the same outline.

I gave once the outline of "The Discontented Pendulum" in one of the Thought Test Readers.

The pendulum stops one night, thus stopping the whole mechanism. The face argues with the pendulum. Finally the pendulum starts. But alas—the next morning! (Stimulating questions; Where was the clock? What was the matter with the pendulum? Why did the face talk with the pendulum? Did the hands and wheels say anything? What made the pendulum decide to work? What happened the next day?)

The locale of the stories ranged from Girls' Hall here, to a castle on the Rhine and the clock was anywhere from five minutes to two hours late with consequent results of varying degrees of annoyance.

Once the child gets the idea of the outline, he can more readily grasp the big points in his study on subjects for his own use. And it is much easier in any type of composition to induce unity and compactness if the outline idea is understood.

I would not have every story outlined in writing. That smacks of drudgery and works against spontaneity, a free flowing of thought. But I would have sufficient drill on outlining to induce in the child's mind a subconscious sense of the outline so that he would recognize where a misplaced idea belongs, to keep his story in good alignment.

Variety, both of treatment and expression, must be developed.

Variety of treatment becomes apparent as soon as the entire class has written stories on an identical outline and compared the stories. Or, it is discovered in completion stories, developed from a theme sentence such as this; "As I was walking down the street, I met an old man." One student took him to the depot, to meet his soldier-son who was returning from the war; one made him a stranger who

had lost his way, and another made him a robber with a grey wig on. Then, again, we may give a subject, Coming Back to School, and call for three beginnings, one starting, "Mother said to me, one morning"; another, "I had been watching the calendar for a week," and another, "I think I was both glad and sorry." Or just a key word may be given. Spring Is Coming, is your title. Write three beginnings. In the first speak of yourself; in the second, speak of Mother Nature; in the third, use the words, The world,

Endings may be treated in the same way. Constant emphasis from the teacher on the value of stories being interesting, on the student's trying to tell something in an unusual way, and always there must be great appreciation of any effort toward this end.

Paragraphs and sentences expressing one general idea may be treated in several ways to get at the idea of variety of expression. As an illustration, show the child that he may give you an idea of cold weather by saying, "I am cold; The weather is cold; Jack Frost has been biting my ears; Br-r-r-r- it's cold, to-day; This is real winter weather."

The teacher then gives the idea which is to be told in a variety of ways. Our idea this morning is, I saw the first dandelion. I should tell about it this way; "I am sure spring is here. Something told me so, this morning, as I was walking across the lawn. There in the grass I saw a pretty yellow flower and I was sure I heard it whisper, 'Spring has come' "; or perhaps I should tell it this way; "I felt very happy this morning. Shall I tell you why? I saw a dandelion in the grass. Now, I am sure that Spring has come."

To the class—"How would you tell about seeing the first dandelion? Will someone write a paragraph now about a star that fell on our lawn? About an advertisement that the man in the moon put into the paper, about a lost star (think of the dandelion, all the time.)"

Deaf pupils, as well as hearing pupils, should be taught to strengthen their compositions with specific terms and to beautify them with imagery where such is natural.

In the matter of specific terms, we may teach the generic

with its various specific terms. Such a vocabulary can be gradually built, perhaps in connection with word-charting, in the reading class, always emphasizing the idea that these words are to be used in letters, stories and when talking with others.

Starting with the known, we give *fruit* following with a large bracket or a parenthesis in which we enclose *peach, apple, pear,* etc. Then we give perhaps *go,* following it with *dash, rush, speed, crawl, sneak, skip,* etc.; or *speak,* following it with *call, shout, cry, whisper, mutter, mumble,* etc.; or movements of the body as *bend, kneel, shrug, squat, stoop.* In writing his stories, the child will at first use some general term (*I stood* on my knees, for example). Gradually he can be taught not only that he must use correct expressions but that he can color his picture (most of our pupils have art and can be made to see that the finished picture is more beautiful than the first sketch) and beautify it with such words as mutter, shriek, crawl, sneak; that, "He slyly exchanged the whistles" gives a much stronger or clearer picture than "He exchanged," and "Nokomis moaned" is better than, "Nokomis cried."

In imagery the metaphor and the simile may readily be taught. Occasionally, with imagery, as with the participial phrase, we get a pupil who goes wild on such usage. I have a student now who wants to write everything in imagery. Gradually, by leading her to compare her composition with what she reads, I am convincing her that imagery is used as we use lace or ribbons or embroidery—to beautify—and that we can spoil our writing by overdoing in this way. In the meantime, she has developed a trend of thought that will have a very splendid effect on her future life. Lonely moments cease to be so lonely when we see pictures in the embers and poems in clouds—and she sees such things now where once she saw burning coal and stored-up rain.

It hardly seems necessary here to take space for discussing writing letters—business and social—invitations, replies, telegrams; compositions based on dreams, autobiography, scenic descriptions. My object has been more to sug-

gest sources of subjects, some ways of creating writing enthusiasm, some ideas as to style development.

And now may I add one more rule for teaching composition successfully, a rule both trite and axiomatic and yet so important, it seems the Alpha and the Omega? Success in this work depends more upon the native enthusiasm of the teacher than upon the following of any number of so-called, tried and proven methods, for enthusiasm is contagious and no class of children is so responsive to the teacher's enthusiasm as are our deaf children.

FANNIE DAY HURST,
Instructor in the Utah School,
Ogden, Utah.

SHORTHAND AS A TYPICALLY SOCIAL PHENOMENON—WITH SPECIAL REFERENCE TO THE EDUCATION OF THE DEAF DURING THE PRE-SCHOOL PERIOD[1]

I am inclined to think that every social phenomenon which is more than ephemeral shows its social worth by exhibiting two, rather contradictory, properties, the property of becoming increasingly traditional and that of being adaptable. The former without the latter insures stagnant duration, but not real life of a society.

Tradition does not suffice as a preservative of social organization as soon as the social organism gets into competition with another social organism. Japan and China had splendid traditions of enormous preservative value, but when they came in contact with the western nations, they had to adapt themselves to a new order of things. With this adaptation Japan succeeded quickly. China is still struggling with it, but with all signs of ultimate success. The Boer Republic in South Africa did not adapt itself, succumbed, was absorbed.

---

[1] A paper read at the meeting of the Society of Progressive Oral Advocates, Cincinnati, Ohio, May 5, 1932.

The use of script in civilized society illustrates the same laws of tradition and adaptation in a partial field of social life. It begins in the dawn of civilization with an adaptation. The drawing of pictures for purposes of thought communication is adaptively *simplified.* Since this simplification saves time and effort in drawing, it is an adaptation. The simplified drawings become *conventional.* This is the law of tradition. The pictures then hardly resemble any longer the original objects; but because tradition gives them a meaning, they are highly useful. The Egyptian hieroglyphic writing is an instance of this kind. The Chinese ideographic writing is a still further development. Here no one could guess what the symbols signify, without being taught. A Chinese youth has to spend a tremendous amount of his time in being taught the meaning of these symbols.

Adaptation again comes into play. The hieroglyphic sign no longer is a signal for pronouncing the whole word, but only for pronouncing the most emphasized part of it, perhaps the initial sound of the word. Thus the alphabet originates and becomes a tradition.

The traditional alphabet of any nation has at least two imperfections which open the way for new adaptations; and if we consider the complete words written with the aid of the alphabet, we may say that it has even three imperfections.

First, the traditional written symbols developed from hieroglyphics are of unnecessarily complicated design. Written symbols, like the Morse code or the Braille letters, designed and reasoned out by individual inventors, are much simpler.

Secondly, there is but little likelihood that script signs developing from hieroglyphics will exhibit any similarity of a phonetic type which might aid in their quick recognition, so that, for example, all vowels would have a common feature, all unvoiced consonants would have a common feature, all voiced consonants would have a common feature. The slight exception of the Semitic languages only serves to confirm the rule. In the Semitic languages script signs for mere vowels were originally almost completely neglected. They were scarcely regarded as parts of the alphabet. Let

anyone unfamiliar with Semitic writing inspect the word "kosher" which he will find in Hebrew letters on innumerable delicatessen shops and grocery stores. He will notice that it is written in three characters, representing only the consonants.

And thirdly, the word picture, instead of being a mere assembly of elements, became such a traditional fixture that the written spelling failed to change with the changing spoken language. Our own language, English, is the most grotesque exhibition of this failure. Social tradition forces us to write many words as if we were pronouncing them the way they were pronounced six or eight hundred years ago. Anyone who has ever been progressively interested in simplified spelling knows the tremendously repressing power of this tradition over such an effort. An average Englishman would regard it as a distinct "dishonour" if you would write to him offering him an honor with the word written in the way in which we write it in America.

The second kind of adaptation of script signs we mentioned as desirable would make them classifiable somewhat as phonetic elements are classifiable into three fairly large groups, vowels, voiced consonants, voiceless consonants, or into still smaller groups. In quite an extreme way, trying to depict the anatomical details of speech, this was done in the middle of the last century by Melville Bell. The system of doing it goes under the name of Visible Speech. It captivated many of the teachers of the deaf, and not a few of them still think of it as something which prospective teachers of the deaf, if not the deaf children, ought to be forced to learn.

Another reason why teachers of the deaf succumbed to its promises may be the fact that Visible Speech is an invention of the father of Alexander Graham Bell, the inventor of the telephone, and that both of these men, father and son, always were very generous toward the needs of the deaf. But gratitude should not blind us to the psychological defect, the cumbersomeness of this system. The sooner we succeed in making our deaf-born pupils forget the anatomical nature of their speech organs, which hearing children

never think of because they do not have to, the better for the deaf children.

On script reform, the greatest demand is simplifying the letters so that each contains a minimum of elementary curves. And this demand is met by shorthand. That brings us back to the first-mentioned adaptation of the written symbols. Every inventor of a system of shorthand (other than a list of mere abbreviations) has made it his task to add to the solution of this problem. Every system of shorthand tries to reason out the necessary minimum variety of the simplest possible lines and curves. However, the inventors of shorthand have usually, especially for the English language, tried also to do two other things (the first of which we can use in teaching the deaf): first, to make their writing system *strictly phonetic,* that is, never to write anything that is unpronounced, and secondly, to use abbreviations, or, as they nowadays say, "short-word-forms."

This using of abbreviations, which we abhor in ordinary social life as well as in the writing of business letters and in book and newspaper production as looking cheap and undignified, results merely from the fact that the inventors of shorthand nearly always tried to serve a limited professional class before serving the whole of mankind. They desired first of all to train parliament and court reporters and secondarily secretaries who could take dictation and transcribe this dictation on the typing machine. Speed first, speed second and speed third was their aim. Few of them considered shorthand as a possible universal writing method.

Thus, unfortunately, the public scarcely thinks of shorthand as something that could possibly be anything but a professional manual skill of the court stenographer, the office clerk or people in similar professional employments. That is a regrettable misconception of shorthand, and the more regrettable the more common it is.

Shorthand as a general social adaptation (that is, not merely a professional skill) and as a general social tradition would have enormous advantages over ordinary script. And it is only the more a pity that it is not yet sufficiently traditional, that it is not more widely spread, although for-

tunately more and more young people are learning it in school, and there are probably half a million people now in the United States who can read the system most commonly taught in our high schools, the Gregg system.

One of the advantages of the strictly phonetic kind of shorthand (that is, using no short-word-forms) is this very fact that it wastes no time or paper on writing what is no longer pronounced.

The other two advantages which we have claimed for shorthand (to be understood as shorthand without abbreviations) may not both with equal readiness be admitted by everybody. The first one,—yes! why make four motions when one suffices to make a distinguishable sign? Why four curves when one properly chosen curve is just as clear? But why should there be a similarity among those signs which serve sounds phonetically similar, that is, acoustic-physiologically related? I admit that for the hearing person this is totally irrelevant. But why should we not keep it in mind when designing shorthand symbols if it should prove even slightly helpful in educating the deaf?

The very inventors of the existing shorthand systems, without intending to help the deaf, rather pedantically following a simple scheme, did help the deaf when they made the b-sign like the p-sign, the v-sign like the f-sign, the g-sign like the k-sign, the vowel signs similar among themselves. And this brings me to a brief discussion of the very practical question: Should we not *systematically* introduce shorthand into the education of the deaf, for their universal benefit as a class of handicapped people?

The actual, though informal, education of the hearing child begins in the second year of life as an oral and auricular education: The infant learns to *speak* words by *listening* to words. For "auricular" the deaf child must substitute "visual." The modern education of the totally and congenitally deaf child for too long a time has remained primarily an oral and lip-reading education. The so-called Belgian method, however, the complete success of which was demonstrated by Herlin in Belgium, makes word-reading precede speaking and speech reading.

There is a peculiar "vicious circle" in the early education of the deaf which does not exist in the education of the hearing "pre-school" child. Let me say on this occasion that I think we ought to look for a substitute for the epithet "pre-school," which is becoming ridiculous, nowadays, when everybody clamors for extending the kindergarten downwards by the establishment of "schools for pre-school children." Why not call these children "parvels"? It would not be a marvel. The Spanish speaking people call them *parvulos,* which has almost the same pronunciation. In Italian the word *parvolo* is a rare word, but it exists. The French educators could coin the word *parvule* in analogy to the formation of the word *pendule.* Would not a "school for parvels" be better than a "school for pre-school children" with its *contradictio in adjecto?*

All children are at first "infants," that is, ("in" equals "non," and "fantes" equals "speaking," in Latin) non-speaking individuals. Hearing children, after having learned the chief sounds of the parents, acquire their language increasingly by imitating what they hear and by *pronouncing what they read* under the control of what they have heard. They are not likely to practise the pronunciation of a word they read but never hear. But deaf children by necessity must practise the pronunciation of words they never hear, but which so often they read in a totally "erroneous," in the sense of "unphonetic," spelling. Thus they learn, by reading *without* a teacher, words (that is, spoken words) which are non-existing in the English language.

Now we approach the "vicious circle." In communication, the deaf children have to depend on lip-reading. But through lip-reading scarcely more than one-half of the spoken elements are visually recognizable; the other half must be guessed. And here appears the vicious circle. The invisible half can be guessed only by him who has a command of language. But a wide command of language can be obtained only through reading, that is, lip-reading and script-reading. Lip-reading (half guessing, as we emphasized) then is the source of language perception and almost impossible unless language perception is already in existence. And script-

reading (very misleading through our abominable spelling) is the source of language perception and well nigh impossible unless the correct interpretation of the spelling, the correct language perception is already possible. Society commits a veritable crime against the deaf parvel, expecting of him that which is impossible, something like raising himself above the floor by pulling his boot straps.

Of course, if we could appoint for each deaf child an individual teacher devoting herself exclusively to her pupil during sixteen hours of the twenty-four, the problem might solve itself. But that is a social economic impossibility.

To make it possible for the deaf child to train for language command by spontaneous, uncontrolled, *reading*, we must give him script to read which is strictly phonetic, not written in our absurd spelling. Of course, in making this demand, we remember that we are making it for a child who has already learned, from a skilled teacher of the deaf, to pronounce the elementary English sounds.

In addition to being phonetic, the script which we offer the deaf child for spontaneous (teacherless) training in the use of the English language, should be as simple in its forms as possible. But the most perfect simplicity would not justify its use by the deaf if it were script invented for the exclusive use of the deaf. Anything that is invented *for exclusive use by anybody* is to be condemned on social grounds. We do not want the deaf set aside conspicuously as a group of social non-conformists. That is why we, as oralists, condemn the manual alphabet, although we do not wish to deprive of it those to whom it is the straw without which they would sink in a sea of non-intellectuality, of brutishness. But "*no* script for the deaf that is *the* script for the deaf" must be our slogan.

Fortunately, we already have in modern society a phonetic script that is at the same time a very simple script. It is shorthand, without the use of short-word-forms, of course, so far as its use concerns the education of the deaf. The most commonly used system of shorthand is probably read with considerable fluency by half a million people in the United

States. By grouping them with this half million people, we do not make social outcasts of the deaf.

Why not, then, supply the deaf parvel with shorthand reading matter for his teacherless training in the use of language? Why not? Nobody has ever mentioned any reason why not, although the question was raised sixty years ago by Alexander Graham Bell, but was unfortunately forgotten under the stress of litigations concerning telephone patent rights in which he became excessively involved. The question was sidetracked but never answered in the spirit of rejecting the proposal. It is hinted at now and then, even recently, in the literature on the education of the deaf, but not with sufficient emphasis. There seems to be no other reason why our principals of schools for the deaf do not take any active interest in the question except that they, or some of them, have grown up like the general public with the notion that shorthand is something learned by the office girl in a low-grade commercial school, and that its use does not rank much higher socially than dishwashing. The few court reporters and parliamentary stenographers are easily forgotten or regarded as a species of conjurers whom the average man has no ambition to imitate.

Shorthand as a social-intellectual phenomenon worthy of intense encouragement? How few think of it! And shorthand as an effective means in the battle against near-illiteracy among the deaf? How few educators think of it! And last, not least, shorthand as a splendid method for quick and accurate communication with pencil on the vest pocket writing pad by the adult deaf, long after having left school, whenever lip-reading fails in business, in travel, and even at home? Of course, lip-reading will always fail in conversation when one with whom the deaf person wishes to converse is an ordinary hearing person unable to hear because of noise; but that person might easily know shorthand. And what a saving of time when notes are exchanged between them in shorthand rather than in longhand.

I made my first experiments on teaching shorthand to deaf children in 1930. It was a complete success in the sense

that no obstacle whatsoever, intrinsic to the method, made its appearance.

During the present academic year, we have been trying the method very systematically on two little girls, totally deaf, four years old, who had never before received any instruction. Unfortunately, I could not persuade any highly-skilled teacher of the deaf to try a method lying quite outside of her accustomed routine. But I found a graduate student of educational psychology willing to make the new educational experiment, Miss Florence Sweet, who already had a master's degree from Ohio State University. Miss Sweet, however, had no previous experience in teaching deaf children and had to acquire her skill in speech-teaching and in the teaching of lip-reading while she was engaged in carrying out our educational experiment.

The Belgian method requires that the first year be devoted principally to the teaching of reading. This means that words are recognized as meaning particular objects shown in great profusion both as real things and pictures, to be chosen from; that written commands be executed at sight; that word combinations meaning actions be dramatized. Herlin claims that the analysis into the written elements (letters) is made by his pupils spontaneously, and that speech- and lip-reading develop toward the end of the first year and later almost spontaneously, that is, with much less effort on the part of the teacher than when reading is neglected for the first year. In Herlin's method the teaching of speech- and lip-reading becomes systematized only during the second year. At the end of the second year, he reports, his pupils are in everything advanced over those taught by a different method.

With our two little girls we have followed the same plan, only with this difference, that the written matter to be read was not presented in English script and spelling, but in Gregg shorthand (but strictly phonetically, that is, without abbreviations) as explained. This written matter was partly shown on cards, partly written on the blackboard.

The method appears to be a complete success. The children learned nearly a hundred words and commands in

about four months, in spite of somewhat irregular school attendance. We hope to report more details on a future occasion. Let us finish with the remark, that it is our intention to teach the children to read ordinary English print and script later, that is, at the very age when hearing children receive that instruction in the public school, that is, when they are six years old.

MAX F. MEYER,
Research Professor of Psychology,
University of Missouri, Columbia, Mo.

VISUAL EDUCATION BY USE OF THE BLACKBOARD

Man has been endowed by nature with five so-called senses—hearing, sight, touch, taste and smell—by which his mind makes contact with the outer world, and through the exercise of which he may become educated and civilized. Of these five senses sight and hearing constitute the main avenues to the mind, and they are, by far, of the greatest importance from an educational point of view. The reaction of touch, taste and smell is physical rather than mental, and their educational value is negligible as compared with that of sight and hearing. When sight is lacking, hearing is first in importance; when hearing is lacking, sight ranks first; when both sight and hearing are lacking, touch becomes the main avenue to the mind.

Whether sight or hearing is the more valuable to man is a moot question. It is a matter of note that the blind, with practical unanimity, prefer blindness to deafness, while the deaf, with equal unanimity, prefer deafness. These opinions need not be taken as conclusive either way. They are one-sided. The blind man can speak only of his own condition and can but surmise as to that of the deaf man, and vice versa. Many years ago there was a girl pupil at the Minnesota School for the Deaf who was blind for several years during her early girlhood. Then, by some freak of nature her sight was restored and she became totally deaf.

When asked which condition she preferred, she was emphatic in favor of deafness. But in one respect it must be admitted that the blind have an insuperable advantage over the deaf, and that is in the acquisition of language. Language is phonetic in origin and construction, hence it is naturally and easily learned through the ear.

The deaf child's acquisition of language is wholly a visual process. (In what is here written it should be understood that no account is taken of those children who are classed as hard of hearing, and who can, to a considerable extent, be educated orally as normal children are.) The normal child lives and grows in an atmosphere of spoken language. At home, at school, on the playground, at Sunday school, at the movies, over the radio, the ear absorbs language easily and naturally from morning till night. The case of the deaf child is markedly different. All language must be presented visually, and the amount that can thus be presented during one day of the deaf child's life is but a fraction of what the normal child receives. Moreover, the normal child begins to acquire language in infancy, while the deaf child, unless it receives special and unusual home training, has no knowledge of language at all when it enters school. We who have had experience in teaching language to deaf children know well what a slow and laborious task it is and how unsatisfactory the results are after years of effort.

All communication with the deaf and all their instruction must be in visual forms, of which four are possible—the sign language, finger spelling, writing and lip-reading. Of these the sign language is the easiest and most natural as it is a purely visual language, appealing directly to the eye, while the other forms consist of a phonetic language visualized. The sign language, though much misrepresented by those who do not understand it, is a real language, a great source of information, a facile means of communication, adding much to the happiness of the deaf among themselves. But—and this is the crux of the whole matter—it is a picture language, not a word language. The deaf must live in a world where a word language prevails. Of their own

volition they would naturally prefer the sign language to all other means of communication. This would interfere with the necessary practice in the use of the English language. Therefore, many schools ban its use entirely during the educational period and frown upon its use in afterlife. Other schools forbid its use in the classrooms but tolerate it outside.

Next to the sign language, finger spelling is the most facile means of communication among the deaf. The main objection to the former, that it is not a word language, does not apply to the latter, for it is as much a word language as writing, the only difference being that the letter symbols are written in the air instead of on paper. Be that as it may, finger spelling is banned from many schools on the ground that it may interfere with practice in speech and lip-reading. Many educators would subordinate everything to speech and lip-reading. The wisdom of this policy is open to question. A considerable proportion of the deaf cannot attain a satisfactory use of speech and understanding of lip-reading after years of training. The premier object in educating the deaf should be to give them a working knowledge of the English language, spoken, spelled or written, and any method that will further this object should be encouraged.

Bearing in mind that the deaf learn language wholly by visual means, it follows that their progress will depend upon the manner and quantity in which it is presented to the eye. The longer the pupil sees it and the more of it that he sees, the greater will be the impression made upon the mind. Writing and its natural sequence, reading, present language in permanent form, giving the learner time for observation and absorption. Give a deaf child the ability to read and write and we open up to him unlimited possibilities for future improvement in language and knowledge.

Writing and reading should have an important place in every schoolroom, and it is here that the value of the blackboard comes into play. All modern schoolrooms are well supplied with blackboards. The classes in our schools for

the deaf are so small that each pupil has ample blackboard space. There is no better way to present language in visual form to the pupils than by daily use of these blackboards. Many teachers prefer to have the pupils use pencil and paper for school exercises. In this way the work becomes entirely individual. One pupil does not know what another writes and there is no opportunity for comparison. The corrections and explanations must be made individually. Pupils are apt to make the same mistakes and the teacher has to repeat the same corrections and explanations to different pupils. This is a waste of time and energy. If the exercises are lengthy and they are corrected in the classroom, too much time is taken that might better be applied to other work. A common practice is for the teacher to collect the papers and make the corrections outside. Corrections made in the absence of the pupil are of little value. The why and wherefore are lacking. Pupils receive their papers, look them over, note the grade, and then forget all about them. The psychological moment to make corrections is in the presence of the pupil right after the exercises are written. Cases are on record of teachers who took classroom exercises home for correction and never returned them to the pupils. For the credit of the profession it is to be hoped that such teachers are few and far between.

The use of the blackboards for school exercises offers practically the only opportunity for real class work. The work of the pupils is presented where all can see it. The corrections and explanations are made before the whole class and all can profit by them. While the pupils are writing, the teacher can go about, offering suggestions or giving needed help. If the exercise consists of questions and answers, and if a pupil starts out wrongly, the teacher can call attention to it and give the pupil a chance to think again. There is little in the line of classroom work that cannot be done upon the blackboards. In the earlier years sentence writing, action writing, item writing, picture descriptions, short story writing can all be written and corrected there. When the items, descriptions, stories are on different subjects, think of the great amount of visual lan-

guage presented to the whole class and the number of useful explanations and corrections the teacher may make. Later on in the course, when textbooks on geography, history, grammar and other branches are taken up, the lessons can all be reproduced on the blackboards advantageously.

Blackboard work should be so planned that the pupils may not have the same work to do. This will do away with the evil of copying, of which some pupils will take advantage if opportunity offers. Differentiating the work is easy when the textbook lessons are given. In arithmetic or algebra different examples or problems may be assigned. In case of a lesson in geography, history, or some other subject, the best way would be for the teacher to prepare a number of questions or topics, covering the salient points of the lesson, and write these on numbered cards for distribution among the pupils. When the pupils have finished their work at the blackboards, the entire lesson is there in visible form before the class. While the correcting and explaining are going on, the class should be held to strict attention. This will be helped by the fact that the work of the several pupils is different, and the teacher can accentuate the attention by serving notice that when review is given, different questions will be assigned to different pupils. Not knowing where the question "axe" will fall, the pupils are likely to give more attention to the whole lesson.

Deaf children, like hearing children, are inclined to put their best foot forward before company. Blackboard writing is in the nature of a public performance, and the consciousness that all his classmates will read what he writes will stimulate a pupil to do his best. A great advantage in blackboard work lies in the help that it may give to the slower pupils. No class is perfectly graded. Some of the members are in the five-talent class, others two-talent, still others one-talent. Blackboard work offers to the less gifted pupils a valuable opportunity to profit by the excellent work of the mentally-endowed. When school exercises are written on paper, each pupil has to "go it alone" and the slow one has no example, no incentive to do better.

Another way in which the blackboard may be used, particularly in the earlier years, is for the teacher to write items of news or interesting and amusing anecdotes, clothing them in easy, colloquial language, adapted to the comprehension of the class. These will be read eagerly by the pupils and will serve as models for their own writing. Such writing by the teacher, as well as all other blackboard exercises, should be left until the boards are required for another exercise. This will give time for more lasting impressions to be made upon the minds of the pupils.

In the Minnesota School for the Deaf the value of blackboard work in visual education is emphasized. In the first year, as soon as the pupils learn to speak words, these are written on the blackboard. Then simple actions follow, and by the end of the term the little ones are able to write a series of ten or twelve actions with very few errors. This work is expanded in the following years. A visitor to one of the primary classrooms any morning will see the blackboards covered with language work written by the pupils. Last year two little girls, sisters, who were born deaf and who were in their second year at school, spent Easter at the home of a classmate. The morning after they returned each wrote a detailed account of the visit and its incidents, covering more than two blackboard spaces. Their language was remarkably free from errors. The other pupils in the class eagerly read what was written and no doubt profited by it. This is but one instance of the value of the blackboard in visual education.

JAMES L. SMITH,
Supervising Teacher, Minnesota School, Faribault, Minn.

MISCELLANEOUS

"A Study of the Deaf in England and Wales"—A Review.—An ever-growing, insistent demand on the part of the various agencies concerned with the problem of deafness in England that that problem has reached a stage of emergency led the Ministry of Health and the Board of Education in April, 1930, to institute a thorough-going survey of the entire field, and placed this investigation in the hands of Dr. A. Eichholz, formerly chief government health inspector in schools for the deaf. The objective of this study was set in these terms:

> To obtain fuller information than is at present available on the position in industry of deaf and dumb persons and of the facilities for their education and training and for securing employment.

The results of this study are embodied in a detailed collection of data in a report by Dr. Eichholz to the Minister of Health and the President of the Board of Education, under the title "A Study of the Deaf in England and Wales—1930-1932." This report, in effect a dictionary on matters pertaining to the deaf, thus becomes the most recent review of the question on a national scope.

It appears the British government has not been so solicitous of the welfare of the deaf as it has been in the case of the blind. This difference has been so marked as to make it seem in comparison a matter of neglect, and in consequence recent years have seen serious handicaps imposed upon the deaf as a whole. A particular source of complaint is the present designation by law of the compulsary period of schooling for deaf children, namely from ages seven to sixteen, which, it is contended, does not suffice to provide the training that will enable deaf persons to hold their own when they leave school. A second condition operating as an unfortunate handicap to the deaf refers to the regulations established by present-day labor legislation and by trade unions, the effect of which is to make it exceedingly difficult for the deaf to obtain and hold employment.

Proceeding from these ideas as a base, Dr. Eichholz, who brought to the study an intimate acquaintance with every phase of the question of deafness derived from 32 years of

close contact in his official capacity, gathered a vast range of data that serves as a reservoir of authoritative information on the deaf and the conditions affecting them.

In his analysis of the subject, Dr. Eichholz includes consideration of four major aspects: (1) The general problem of deafness; (2) The education of the deaf; (3) The deaf in adult life; and (4) Summary and recommendations. Merely an enumeration of the topics dealt with in each of these divisions will indicate the breadth of the investigation, and though the 206 pages of the report make brevity of treatment a necessity, the student of the subject will find little lacking for a thorough understanding of the entire field.

1. General Considerations. By way of introduction, the report discusses first the reasons for the investigation, the general problem of the deaf as a distinct element in the state, the relation of deafness to mutism, the diagnosis and prevalence of deafness, means of communication among the deaf, effects of deafness upon the personality, the causes and prevention of deafness, laws affecting the deaf, an historical review of the education and care of the deaf, and methods of research.

2. Part II deals with The Education of the Deaf. This section considers such matters as the ascertainment of deaf children by local education boards and their attendance at school—in this connection it is of interest to note that in 1930 there were reported 3,621 deaf children in England and Wales as of school age (177 of these not enrolled in school) or a proportion of one deaf child to 1,546 children in public and other elementary schools—aims and methods of education of the deaf, school classification of deaf children, vocational training, trade apprenticeship for deaf pupils, a plan for the higher education of the deaf, teachers of the deaf and special training for their work, the cost and results of education, the placement of pupils leaving school, the need of bringing down the lower limit of the compulsory age for school attendance from seven to five (as is the case with the blind and with elementary school children), and the education of partially deaf children.

3. Part III considers The Deaf in Adult Life. Under this head come such matters as the difficulty of obtaining complete data on the adult deaf (the chief reliance in this being the missions and welfare societies), the activities of the National Institute for the Deaf and of the widespread missions and welfare societies, the Poor Law and its relation to the deaf, homes and hostels for the indigent, condition of the deaf in their industrial and social relationships, and then an elaborate discussion of employment with all the many aspects that make wage earning so much a greater difficulty for the deaf than for the hearing. This section of the report also treats of the deafened, and the blind-deaf.

4. It is in the final section, which gives a Summary and Suggestions, that one will find the essential substance of the report brought together. This summary differentiates as to two main classes with respect to defective hearing, deaf-mutes ("those who from birth or early age are deprived of useful hearing and natural speech") and the deafened ("those who after possessing useful hearing and speech have lost the power of hearing in various degrees"). The interesting distinction is here made that since authentic medical authority estimates one person out of three in the whole population as suffering from some degree of deafness, that is, the condition known as hard of hearing, under which the persons so affected still maintain normal social contacts, this group of the deafened should not be considered as a class requiring special social group treatment under government auspices any more than those suffering from such ailments as rheumatism, heart disease, or diabetes.

An estimate of the total number of deaf-mutes in England and Wales places it at 34,000, and for Great Britain 38,000.

Deaf-mutism finds its origin in either pre-natal or post-natal causes. There is doubt as to the possibility of eliminating completely the inborn type of deafness; concerning deafness of post-natal origin, progress in medical prevention and inspection has made such strides in recent years as to warrant the hope of a more than substantial reduction in the numbers of such cases.

The various handicaps of a personal and social nature produce conditions which make it imperative that deaf-mutes as a class receive organized attention under government agency if adequate relief is to be obtained.

Concluding finally that the problem of the deaf depends for solution upon two things only—*vocational training* and *placement,* Dr. Eichholz proposes the need for an adjustment of existing administrative provisions along the lines of health, education, and industrial and general welfare as the best method in attack of the problem. These adjustments should include:

I. Health

1. A scientific inquiry into the causes and prevention of deafness.
2. Further attention to prevention of deafness in the maternity and child welfare services.
3. Further attention to prevention through improved methods of inspection and closer attention to treatment in the school medical service.

II. Education

1. An inquiry into the methods of education of the deaf and dumb.
2. With regard to the partially deaf, an inquiry into the formulation of medical standards of deafness to be applied in connection with the admission of pupils to schools and into educational methods and their application to the schools.
3. The need for increased effort to secure early admission to schools for the deaf.
4. The need for further provision of vocational training.
5. The need for further provision for the education of the partially deaf.
6. The provision of a secondary school for the deaf.

III. General Welfare

1. The need for assistance towards relieving the condition of the blind-deaf.
2. The social welfare of mentally and physically afflicted deaf and dumb in asylums and infirmaries, including the proper classification of the deaf and dumb in asylums.

IV. Industrial Welfare

1. The need for further financial assistance by the Public Assistance Authorities in support of special placement effort for the deaf and dumb.
2. The need for extension and co-ordination of mission effort on behalf of the deaf and dumb.

In the brief space available for this review, it has been possible to give only a bare outline of the report. Throughout it is a solid collection of data probing the question of

deafness in all its ramifications with a deft, a thorough, and yet sympathetic understanding. The case is presented with scholarly reserve, and there can be no condoning further neglect on the part of the constituted authorities on the score that the evidence on hand is not sufficient enough to warrant action.

The report was published by His Majesty's Stationery Office in England, but may be purchased in this country for 80 cents, post free, from the British Library of Information, 270 Madison Avenue, New York City.

Certification.—The list of instructors who have made application for certification under the Conference of Executives of American Schools for the Deaf, since the announcement of previous lists, includes the following, bringing the total to 337:

Yetta Baggerman, Oklahoma School
M. Frances Baker, North Dakota School
Virginia Harris Barnes, California School
Mary Scott Bass, Virginia School
R. Aumon Bass, Virginia School
Frederick Arthur Clayton, Nebraska School
Laura Lange Crosby, Wisconsin School
Martha Davis, Alabama School
Dena Isobel Louise Hagen, Saskatchewan School
Fanny A. Harrell, West Virginia School for the Colored
Mary Elmore Hatchett, Colorado School
George H. Hemus, Colorado School
Frances Hockensmith, Oklahoma School
Fern Maudine Hudson, Texas School
Ada Belle Hughes, Kansas School
Myrtle Corey Kessler, Tennessee School
Frank Thomas Lux, New York School
Jessie D. Merriam, Texas School
Ruth Ingram Meyrick, California School
Margaret Elizabeth Moeller, North Dakota School
Nell Nichol, Idaho School
John Gregory O'Brien, Kendall School

Dorothy Clare Richardson, California School
Mary E. Taylor, Beverly School
John White Thomas, Michigan School
Retta Margaret Williamson, Kansas School
Lillie M. Wilson, Oklahoma School
Mary Emma Zeigler, Alabama School
Dorothy R. Ziebach, Colorado School

INVENTIONS—PATENTS—PRODUCTS prepared for the market on sale, royalty, licence or other basis. Write for information and costs. Alfred E. Glascock, 805½ Tenth Street, N.W., Washington, D.C.

When in England, Don't Forget to Visit

The

DEAF LIBRARY

"Ephphatha House," 5 Grange Road,
EALING, W.5 (Middlesex)

All visitors interested in the Past, Present and Future of the Deaf, Deaf-Blind, Hard of Hearing and other grades and types of Deafness, are cordially welcome to view the Collection of:

1. Over 5,000 Ancient and Modern Books, Pamphlets, Magazines and Foreign Papers. The largest and most complete Deaf Library in London and the South of England. The books are for reference only, and no book or other item may be removed or borrowed.
2. Newspaper Cutting Albums, Model Theatre Scenes of Deaf Historical Groups, Gramophone Record Library and various data likely to be of use to those working among or for the Deaf.
3. Over 4,500 Slides, Photographs and Picture Post Cards of Deaf Work throughout the world from the earliest times.

For further particulars please apply to:

Mr. SELWYN OXLEY, Officer d'Instruction Publique des Beaux Arts Francais, Hon. Secretary and Librarian of the Guild, 5, Grange Road, Ealing, London, W.5.

Stations: Ealing Broadway (G.W.R. and Tubes), Ealing Common and South Ealing. 'Buses and Trams.

A CORDIAL WELCOME AWAITS YOU!

THE BARRY FIVE-SLATE SYSTEM

One of the Best and Most Scientific Systems of Teaching Language to Deaf Children

PRICE $2.50 NET

Send Orders to

THE COLORADO SCHOOL FOR DEAF AND BLIND

COLORADO SPRINGS, COLORADO

STRAIGHT LANGUAGE

By EDITH FITZGERALD

Of interest to teachers and mothers of deaf children

Price, $3.15 postpaid.

THE McCLURE CO., INC., Staunton, Va.

"FIRST LESSONS IN ENGLISH"

A course of systematic instruction in language, in five volumes, by CAROLINE SWEET, Single copy, 40c.

A Preparatory Book, which will save teachers of preparatory and first-year classes the task of hectographing year books, written by EDITH M. RICHARDS, is also on sale. Price, 40c.

"STORY READER No. 1"

Sixty short stories prepared for young pupils, compiled by IDA V. HAMMOND. Single copy, 40c.

"STORY READER No. 2"

Short stories prepared for young pupils, compiled by IDA V. HAMMOND. Single copy, 40c.

"STORIES FOR LANGUAGE STUDY"

Short stories for pupils in their third or fourth year at school, prepared by JANE B. KELLOGG. Price, 40c.

"TALKS AND STORIES"

Contains nearly a hundred short stories and seventy-five conversations for practice in language, prepared by WILLIAM G. JENKINS, M.A. Single copy, 50c.

"WORDS AND PHRASES"

Examples of correct English usage, by WILLIAM G. JENKINS, M.A. Single copy, 50c.

"BITS OF HISTORY"

One hundred stories gathered from United States History, compiled by JOHN E. CRANE, B.A. Single copy, 60c.

"WRITTEN EXERCISES ON DIRECT AND INDIRECT QUOTATIONS"

By J. EVELYN WILLOUGHBY, late instructor in the Clarke School. Single copy, 40c.

"THE STORY OF AMERICA FOR LITTLE AMERICANS"

By GRACE M. BEATTIE, Instructor in the Colorado School. New Edition. Price, single copy, $1.00.

"ELEMENTARY ENGLISH HISTORY"

By HELEN E. WHEELER. Single copy, 40c.

Published by the

AMERICAN SCHOOL FOR THE DEAF, West Hartford, Conn.

In Press - - - -

Ready for Delivery May 10th Mail Your Order Now!

PROBLEMS OF THE DEAF

By MAX A. GOLDSTEIN, M.D., F.A.C.S.

610 Pages—273 Illustrations—Leather Bound

$6.00 Postage prepaid

An unusual, authoritative and comprehensive volume of XIX chapters, covering every phase of work with the Deaf and Deafened and Speech Defective, by an otologist and teacher of 40 years' experience, including:

Chronological History of Deafness—Anatomy and Physiology—Mechanics of Speech—Speech Defects—Cerebral Localization—Hearing Tests—Methods of Instruction—The Acoustic Method—Training of Teachers—The Deaf Child—Hard-of-Hearing Child—Physician and Deaf Child—Parent of Deaf Child—Deafened Adult—Hearing Aids—Schools for the Deaf—Quacks and Quackeries—Research.

***Published by* THE LARYNGOSCOPE PRESS**

912 South Kingshighway ST. LOUIS, MO.

BOOKS FOR USE IN SCHOOLS FOR THE DEAF

English Book I, for Upper Primary Grades.....$ .60
English Book II, for Intermediate or Grammar Grades..... .60
English Book III, for High-School Grades and a self-instructor.... .75
Illustrated Reader, for Pupils of the Third and Fourth Grades.... .60
The author of these books is J. W. Jones, late Superintendent.
Beginning History Stories for Children, by Lela Acker of the Kansas City, Kansas, School.....$ .75
First Lessons in Geography, by Grace M. Beattie of the Colorado School 1.00
English Phrases and Idioms, by Dr. J. L. Smith of the Minnesota School 1.60

Published by the State School for the Deaf, Columbus, Ohio

OUTLINE OF LANGUAGE WORK

BOOK I

With Methods of Presentation of the Work of the First, Second, Third and Fourth Years.

Price per copy, $2.50

BOOK II

With Methods of Presentation of the Work of the Fifth and Sixth Years.
Price per copy, $2.50

Send orders to

EDITH M. BUELL
904 Lexington Avenue, New York City

THE WRIGHT ORAL SCHOOL

ESTABLISHED IN 1894

Fully equipped to educate a deaf child by the speech method from Kindergarten to College entrance. No use of finger spelling or of the sign language is permitted. Children are taken at two years of age. Advanced students take New York State Regents and College Board Examinations. Languages, music and higher subjects are given.

LARGE ENOUGH TO BE A REAL SCHOOL
SMALL ENOUGH TO BE A REAL HOME

CORRESPONDENCE COURSE FOR MOTHERS OF LITTLE DEAF CHILDREN

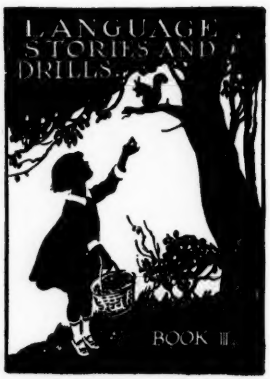
which has been prepared and copyrighted by the Founder and Advisor, JOHN DUTTON WRIGHT, and by which parents are enabled to save for their children the priceless years before school age is reached, and begin at home their training in lip-reading, speech, and auricular development.

The school also publishes three books recently written by Mr. Wright:

"The Little Deaf Child," a book for parents. $1 postpaid.
"Handbook of Practical Auricular Training," a book for parents and teachers. 50 cents postpaid.
"Handbook of Speech Teaching to the Deaf," a book for teachers. $1.25 postpaid.

This school specializes on the hard-of-hearing child.

ONE MOUNT MORRIS PARK, WEST, NEW YORK CITY
(Now known as Nathan Davis Place)



"Language Stories and Drills"

Books I, II, III and IV

Gertrude W. Croker, Mabel K. Jones and M. Evelyn Pratt

Illustrated by Tony Sarg

Price per copy, $1.25

Teachers' Manuals, $.50 Postage not included

Send orders to

CROKER, JONES & PRATT
Public School 47, 225 East 23rd St.
New York City

BOOKS FOR THE DEAF

By MARGARET J. STEVENSON

THE LIFE OF JESUS (Revised)
For Primary Classes. Cloth; Price, 30 cents net.

PRIMARY GEOGRAPHY, NUMBER I (Revised)
Cloth; Price, $1.00 net

PRIMARY GEOGRAPHY, NUMBER II
Cloth; Price, $1.00 net

NATURE FACTS (Revised)
Used correlatively with Primary Geographies.
Cloth; Price, 80 cents net

Send All Orders Direct To

MARGARET J. STEVENSON, OLATHE, KANSAS

BOOKS FOR THE DEAF

By LOUISE UPHAM
Principal of Cresheim Hall, Mt. Airy, Philadelphia

THE BEGINNER'S BOOK
Cloth; Price, $1.00

THE QUESTION BOOK
For Second-Year Classes. Cloth; Price, $1.00

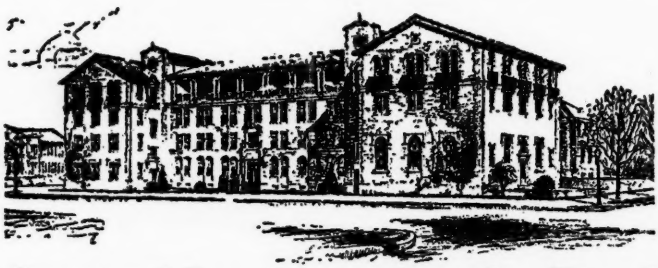
LANGUAGE DRILL STORIES
For Third-Year Classes. Price, $1.00

WHAT PEOPLE DO
Short Lessons on the Trades and Occupations—
Price, $1.00

The above books are attractively illustrated in color.

Send Orders Direct to the Author

CRESHEIM HALL, MT. AIRY, PHILADELPHIA, PA.



Central Institute for the Deaf

NATIONAL RESIDENTIAL AND DAY SCHOOL
FOR THE DEAF AND DEFECTIVES IN SPEECH

Approved by Advisory Council of Foremost Ear Specialists and Educators
Beautiful Newly Completed $400,000 Building Contains the Latest and Most Progressive Equipment for Scientific Research of Deafness and Problems of Speech Education.
Oral School for Deaf Children C. I. D. offers all advantages of exclusively Oral Training and constant expert medical supervision to both Resident and Day Pupils. Education and Training from Kindergarten (3 years of age) to College.
Classes for Hard-of-Hearing Children A new department has been established for the special training of Hard-of-Hearing children in Lip-Reading and Speech; all grades.
Lip-Reading Instruction for Adults Private and Class Instruction for the adult deaf. Conversational Classes for advanced pupils.
Correction of Speech Defects Correction of Imperfect Phonation, Indistinct Articulation, Lisping, Stuttering, Stammering and Aphasias.
Teachers' Training Classes Over 500 teachers are either graduates of the regular Normal Classes or hold certificates of attendance in Summer Normal Classes of C. I. D.

All Classes for Pupils and Teachers Limited

Illustrated Booklet Sent on Request

Dr. M. A. Goldstein, Director - - - Miss Julia M. Connery, Principal
818 S. KINGSHIGHWAY, ST. LOUIS, MO.

Cleary Oral School for Deafened Children

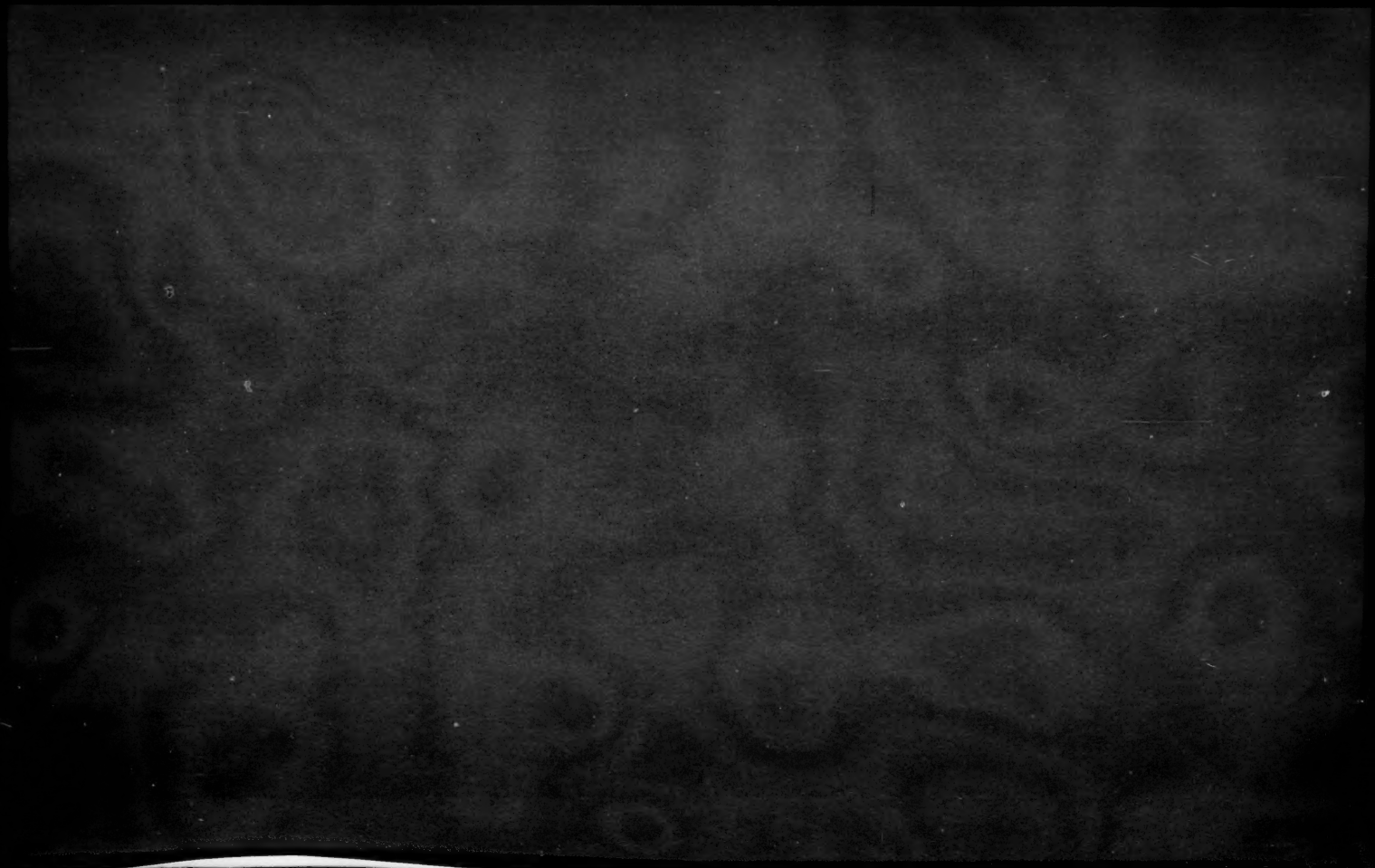
IN THE PINEWOODS AT LAKE RONKONKOMA, L.I.

A country day and boarding school for children whose education has been retarded by deafness, impaired hearing or speech defects. Classrooms equipped with Radioear. Kindergarten to College. Riding and Winter Sports. Large Campus.

Fall Term Opens October 3rd ***Catalogue***

One hour and a half from New York City **Bus Service**

Camp Peter Pan
LAKE RONKONKOMA, LONG ISLAND



CONTENTS

PARTICIPATION OF THE CONVENTION IN THE INTERNATIONAL CONGRESS ON THE EDUCATION OF THE DEAF..*Alvin E. Pope, M.A.* 189

PROPOSED PROGRAM FOR MEETING OF THE CONFERENCE.....
.....*Percival Hall, Litt.D.* 190

HOME ECONOMICS IN SCHOOLS FOR THE DEAF AND THE MARITAL AND OCCUPATIONAL STATUS OF THEIR ALUMNÆ .....
Bertha Bowman Peterson, M.S., and Clara M. Brown, M.S. 192

SOME RESULTS FROM THE USE OF THE GAULT-TELETACTOR.....
.....*D. T. Cloud, LL.B.* 200

"MOTOR ABILITIES OF DEAF CHILDREN"—A Review.....
.....*Alan B. Crammatte, B.A.* 204

THE PRODUCTION OF A TONE BY THE HUMAN VOCAL MECHANISM
.....*Marietta Rector Vinson* 211

AN ANALYSIS OF THE FIRST-YEAR VOCABULARIES OF THE PUBLIC RESIDENTIAL SCHOOLS FOR THE DEAF IN THE UNITED STATES —III.....*Marné Lauritsen Groff, Ph.D.* 219

COMPOSITION—A LIVE ISSUE.....*Fannie Day Hurst* 229

SHORTHAND AS A TYPICALLY SOCIAL PHENOMENON—WITH SPECIAL REFERENCE TO THE EDUCATION OF THE DEAF DURING THE PRE-SCHOOL PERIOD.....*Max F. Meyer, Ph.D.* 248

VISUAL EDUCATION BY USE OF THE BLACKBOARD.....
.....*James L. Smith, Litt.D.* 257

MISCELLANEOUS .....*I. S. F.* 263
"A Study of the Deaf in England and Wales"—a Review, 263; Certification, 267.

The AMERICAN ANNALS OF THE DEAF is published bi-monthly during the school year, appearing in the months of January, March, May, September, and November. The subscription is $2.00 a year, payable in advance; January number, one dollar a copy; single numbers otherwise, 50 cents each. The subscription for foreign countries is $2.20 a year.

Subscriptions made payable to the AMERICAN ANNALS OF THE DEAF may be sent to 450 Ahnaip St., Menasha, Wis., or to the Editor, Gallaudet College, Kendall Green, Washington, D.C.

GEORGE BANTA PUBLISHING COMPANY, MENASHA, WIS.